

# THE MEDICAL JOURNAL OF AUSTRALIA

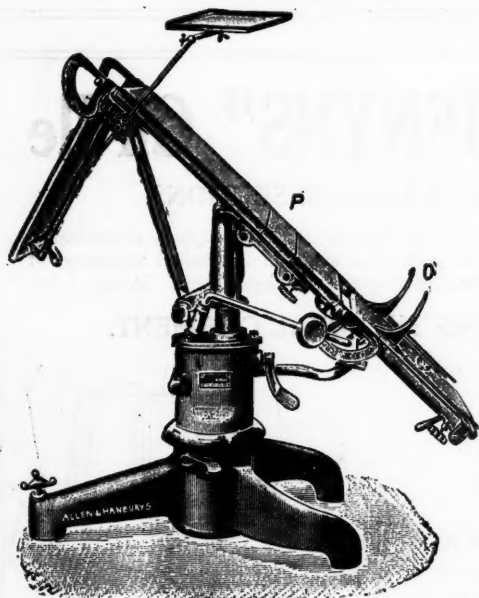


VOL. I.—14TH YEAR.

SYDNEY: SATURDAY, JUNE 11, 1927.

No. 24.

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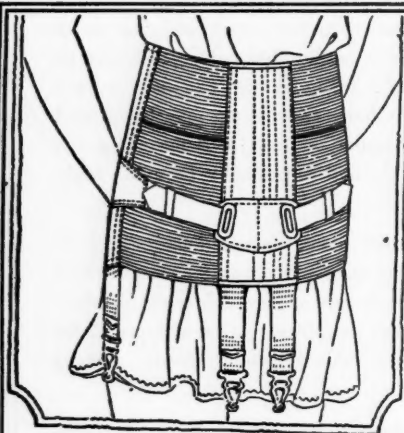
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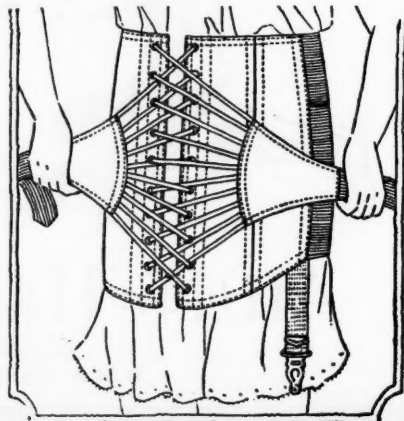
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## Table of Contents

[The Whole of the Literary Matter in THE MEDICAL JOURNAL OF AUSTRALIA is Copyright.]

ORIGINAL ARTICLES—	PAGE.	ABSTRACTS FROM CURRENT MEDICAL LITERATURE—	PAGE.
"Lister Centenary Oration," by J. LOCKHART GIBSON, M.D., M.R.C.S. . . . .	844	Medicine . . . . .	866
"Address on Lord Lister," by C. E. GODDARD, C.B.E., M.D., D.P.H. . . . .	850	<b>BRITISH MEDICAL ASSOCIATION NEWS—</b>	
"The Hospital Question in New South Wales," by THOMAS HAMILTON, M.B., Ch.M. . . . .	856	Scientific . . . . .	868
"The Treatment of Hiccup Occurring During Anæsthesia," by S. J. CANTOR, M.B., B.S. . . . .	858	Medico-Political . . . . .	870
		Nominations and Elections . . . . .	870
<b>REPORTS OF CASES—</b>		<b>MEDICAL SOCIETIES—</b>	
"Chorion Epithelioma," by CONSTANCE E. D'ARCY, M.B., Ch.M. . . . .	858	The Melbourne Pædiatric Society . . . . .	870
"Subacute Bacterial Endocarditis," by G. A. KAYE, M.B., B.S., and N. B. WHITE, M.B., B.S. . . . .	859	The Medical Sciences Club of South Australia . . . . .	872
"Pseudo-Hermaphroditism Occurring in Two Children of the One Family," by WOLFE DAVIS, M.B., B.S. . . . .	860	The Medical Defence Association of Tasmania . . . . .	872
<b>REVIEWS—</b>		<b>CORRESPONDENCE—</b>	
A Guide to History-Taking . . . . .	860	The Red Backed Spider Bite . . . . .	873
Amæbic Abscess of the Liver . . . . .	860	Snake Bite . . . . .	873
A Summary of Medicine . . . . .	861	Surgeons . . . . .	874
Lessons on Diet . . . . .	861	Radiotherapy . . . . .	875
A Book on Hernia . . . . .	861	The Quinine and Urea Hydrochloride Treatment of Goitre . . . . .	875
Hygiene . . . . .	861	<b>NAVAL AND MILITARY—</b>	
<b>LEADING ARTICLES—</b>		Appointments . . . . .	875
Lister's Greatness . . . . .	863	<b>BIRTHDAY HONOURS</b> . . . . .	875
<b>CURRENT COMMENT—</b>		<b>NOTICE</b> . . . . .	876
Paget's Disease of the Nipple . . . . .	864	<b>BOOKS RECEIVED</b> . . . . .	876
		<b>DIARY FOR THE MONTH</b> . . . . .	876
		<b>MEDICAL APPOINTMENTS</b> . . . . .	876
		<b>MEDICAL APPOINTMENTS VACANT, ETC.</b> . . . .	876
		<b>MEDICAL APPOINTMENTS: IMPORTANT NOTICE</b> . . . . .	876
		<b>EDITORIAL NOTICES</b> . . . . .	876

LISTER CENTENARY ORATION.<sup>1</sup>

By J. LOCKHART GIBSON, M.D. (Edinburgh), M.R.C.S. (England),

*Consulting Ophthalmologist to the Hospital for Sick Children, Brisbane; Consulting Ophthalmologist to the Repatriation Department, Queensland.*

WHEN asked by your Council to give a Lister's Centenary address tonight I accepted with diffidence and not a little trepidation. The honour of speaking about Lister was too great to refuse. I was impelled to agree also because, although Lister had left Edinburgh for London before I became a medical student, I was house surgeon to John Chiene, one of Lister's most loyal and enthusiastic assistants—a man who carried out his principles, his teachings and his methods with the greatest thoroughness. I have always considered myself fortunate that my clinical surgery from junior studentship to house surgeonship was conducted under conditions of the strictest Listerism, in other words in the most rigid system of antiseptics and asepsis. I am indebted for much of what I shall say tonight to the delightful biographies of Lister by Wrench and later by Godlee. At places I have even used their language. There is so much to say about Lister and what he did for and initiated for the world, though little of it may be new to you, that I have difficulty in choosing what to take first.

Lister was fortunate in his parents. He inherited a scientific spirit from his father and the humanitarian spirit of his Quaker ancestry coloured all his work. Inherent in him was not only genius, but a capacity also for taking infinite pains. He had never, I gather, to consider ways and means to the detriment of his work. His wife was not only Syme's daughter; she was a true companion, encourager and helper in all he did. He chose a profession he loved and a department of it to which he was devoted. To use his own words: "If the love of surgery is proof of a person being adapted for it, then certainly I am fitted to be a surgeon, for thou canst hardly conceive what a high degree of enjoyment I am from day to day experiencing in this bloody and butcherly department of the healing art." He wrote this to his sister in 1853 while in his first year of house surgeonship to Syme.

He came to Edinburgh from London for a month, chiefly to see Syme's work. He stayed for over seven years, before going as Professor to Glasgow. He owed much to the influence, example and teaching of Syme, who was then the greatest surgeon in either England or Scotland and probably in the world. Lister's admiration of Syme was great. At the end of his obituary notice of him we find these words: "Mr. Syme in short besides being a surgical genius of the highest order, was a perfect gentleman and a good as well as a great man."

In only one circumstance can we find cause to pity Lister. He and his wife were not blessed with children. We may at the same time pity the world

of science. A son of Lister and a grandson of Syme must have been of great value to humanity.

Lister urged his students to:

Keep strongly in mind when they began to practise that their profession would always be an exalted profession, perhaps second to none in that respect. It was on one hand fraught with the deepest scientific interest and on the other it was a profession of pure beneficence and in this respect would vie with the clerical calling. But if a profession of a lofty character, it was also a profession presenting temptation to the degradation and debasement of those who practised it. There were peculiar temptations in it to quackery in one form or another. They would find that their patients would repose unlimited confidence in them and being thus implicitly trusted and having no one to overlook them, they were constantly liable to profess what they did not know and sometimes to do what their best feelings told them ought not to be done.

Such a statement from the greatest surgeon of all time and perhaps the greatest benefactor of the human race is worthy of repetition again and again. It indicates also to us his horror and detestation of quackery in all its forms.

A great surgeon once remarked with peculiar inexactitude that Lister having lighted upon a great discovery, pushed it with the pertinacity of a Scotchman. Unfortunately we cannot claim Lister as a Scot. But we are proud to claim that his genius found its culture medium in Scotland and was incubated there. It is quite true that "there is nothing new under the sun," but this applies to facts only. The facts are always there, but the genius who recognizes and marshals, coordinates and interprets them, occurs only occasionally and requires to be a master mind. Lister was ever ready to acknowledge his indebtedness to Pasteur. He insisted that in order to carry out the antiseptic treatment successfully, an intelligent belief in the truth of the germ theory of putrefaction was essential.

It was not until after his first period of nearly seven years in Edinburgh and until 1865 when he had been already Professor of Surgery in Glasgow for five years, that the causes of hospital gangrene, of septicaemia and of suppuration in wounds began to become clear to Lister. It came as a result of Pasteur's pointing out that "the septic properties of the atmosphere depended not on the oxygen or on any gaseous constituent but on minute organisms suspended in it." To bring this home to his students he produced the results of his experiment modified from one of Pasteur's and introduced even earlier by Chevreul. Fresh urine was introduced into four flasks; the wide necks of these were drawn out, after being heated over a spirit lamp, into tubes about a line in diameter. The long attenuated necks of three of these flasks were bent at various angles; the neck of the fourth flask was cut short and left vertical, but its orifice was reduced to an even smaller size than that of the others. The contents of each flask were then boiled for five minutes, the steam issuing freely from the orifices. As they cooled the air was allowed to rush in to take the place of the condensed steam. The flasks were then left in the same room. The windows of the room were opened during all kinds of temperature. After six months the urine remained unaltered except in

<sup>1</sup> Delivered at a meeting of the Queensland Branch of the British Medical Association on April 5, 1927, on the occasion of the centenary of the birth of Lister.



the flask with the straight neck, in which as it happened (we are told) the change was not a putrefactive one, but the growth of a mould. He concluded, therefore, that the atmospheric gases alone were incapable of infecting the fluid in the flasks, that when they became infected, it could be only by particles suspended in the air, that the bent necks prevented suspended particles from reaching the fluid in the flasks. Two years later these flasks were carried from Glasgow to Edinburgh and regularly demonstrated to his classes there. Nine years later still, in 1877, they were carried to London and shown to his students at King's College with their contents in the same state. They were not only a convincing demonstration of the truth of the germ theory, but a very convincing one against spontaneous generation.

It was this experiment that taught Chiene to teach his students that normal urine uncontaminated from outside the bladder was aseptic and therefore not injurious to the tissues if extravasated into them.

Shortly the essence of his discovery was that germs introduced from the outside caused suppuration and disease in wounds or broken surfaces, that these germs existed in dust-laden air, on the clothing and skin of the patient, on the hands of the surgeon and of his assistants, on the instruments and dressings and in the lotions employed; that they were most prevalent in the surgical wards of hospitals and much less in private houses; that given no broken surfaces suppuration and disease did not occur, for instance, not in simple nor even in comminuted fractures, provided they were not made compound by a break in the skin. As a result of this discovery he taught that access of these germs to a recent wound must be prevented and that in the case of a wound which had already had opportunity of being infected by such germs, all efforts must be made to disinfect it. He found carbolic lotion best for this purpose, but only the best that he happened to know. He had reasons, however, for his choice, not only because he considered that a volatile antiseptic served the purpose of disinfection more thoroughly than a non-volatile, but because his experiments had demonstrated to him that epidermis and oily matters greedily absorb carbolic acid from its watery solutions. In one of his experiments he packed a tube with hair, left both ends of the tube open and then while it was in the upright position a 1 to 20 watery solution of carbolic acid was poured into the upper end. The liquid which passed out at the lower end contained no carbolic acid at all until quite a quantity had been poured through the tube. The hair had absorbed it all. He took hair as a typical epidermic structure and considered that by this and other similar experiments he had proved carbolic acid to be perhaps the best agent for rendering the skin aseptic. He suggested in fact that hair could be made actually antiseptic by carbolic lotion and even used as a dressing.

He taught, of course, that prevention of infection was the only safe course and that it was possible that when once infection had occurred, it was doubt-

ful whether the wound could be made free from it by antiseptics alone. He recognized that the tissues had to join in and help. The best of all healing he taught was under a scab of blood-clot without any dressing, but he found that it only sometimes remained uninfected. To secure freedom from supuration the blood-clot scab required to be protected from the access of germs. He did not consider that carbolic acid was an advantage to Nature's healing powers, only that it prevented these healing powers from being counteracted by the effects of the access of disease germs. He did what he could in fact to keep his carbolic lotions and dressings from touching the actual wound when it had been stitched.

Lister in this work received scarcely any encouragement from the giants of medicine in either Glasgow or in Edinburgh and there were giants in both places. In Glasgow, however, Allen Thomson encouraged him and he had an enthusiastic house surgeon and assistant in Hector Cameron. Syme alone of his surgical seniors in Edinburgh encouraged him and believed in his ultimate success. And he did this not as was thought by many because of his relationship, but from a firm belief in Lister's genius. That delightful author of "Rab and his Friends," Dr. John Brown, also encouraged and believed in Lister. His students first in Edinburgh, then in Glasgow and afterwards again in Edinburgh encouraged and almost worshipped him. Lister's teachings might have borne fruit with other surgeons more rapidly had he placed greater emphasis on the great danger of the infection of wounds in surgical wards owing to the carrying of infective material from one patient to another by surgeons and dressers and less on the danger of the part the infected, dust-laden air played. His own methods, however, showed his care to prevent such avenues of infection.

It may be right at this stage to describe the exact routine of the treatment of wounds as evolved by Lister and practised in John Chiene's wards, when I was student and House Surgeon. It illustrates exactly the methods Lister employed and his care in employing them and why he was always so confident that his patient's wounds would heal without suppuration or disease. Later on I shall be able to demonstrate this when I tell you how he was able by this confidence and success to convince the great London surgeons who until then were less or more than unbelievers, really scoffers.

The part to be operated on was covered with a large dressing soaked in 1 to 20 carbolic acid. This was applied to the part for a variable time before the operation. It was removed in the operating room under the carbolic spray. The idea of the carbolic spray was to create an antiseptic atmosphere above the wound, so that any dust particles falling upon the wound would be rendered inert. All instruments were put into and kept in a lotion of 1 to 20 carbolic, taken out of it when used and replaced in it when not in use or at least when removed from the spray atmosphere. All hands were washed in 1 to 20 carbolic and scrubbed with a nail brush. The hands of the

operator and his assistants were kept in the spray atmosphere and whenever removed from it and as often as removed from it they were dipped in 1 to 40 carbolic before they were returned to the field of operation; 1 to 40 carbolic was the lotion used for the wound if made by the surgeon's knife. All wounds not so made were scrubbed with a nail brush and 1 to 20 carbolic and if deep syringed with 1 to 20 carbolic. Catgut, chromic, as a rule, was used for ligatures which were cut short. Drainage tubes, rubber or other, or sometimes catgut drains were employed. A piece of gutta percha tissue, "protective" we called it, was placed over the wound when stitched up, to protect it from the carbolic dressings. A few layers of carbolic gauze soaked in 1 to 40 carbolic were placed over the protective and the neighbouring skin. A very large dressing of not less than eight layers of carbolicized gauze was then placed on the wound and a large area surrounding it. Between the two outermost layers of this gauze a piece of mackintosh cloth or jaconet was placed. It was a trifle smaller in size than the gauze dressing. The idea of the mackintosh was that discharges would be distributed owing to its presence throughout the gauze and that if the discharge reached the edge before it was noticed to be there and the dressing consequently changed, the germs would have a longer road to travel to the wound than if they had to go straight through the eight layers of gauze only. Towards the end of my house surgeons we instituted what we called dry dressings, that is we omitted the mackintosh because we thought it increased discharge by its poulticing action and we introduced into the deeper layers of the dressing an antiseptic, absorbent substance. We first used salicylic silk as introduced by McGill, of Leeds; we found that the wounds dried up more quickly and required less frequent dressings, but the system was not, of course, altered. By this means a wound was often not dressed for ten or eleven days and was then found to be healed. Our wounds did not suppurate nor did the patients die of wound infection. To illustrate such a dressing and to illustrate also that 1 to 20 carbolic action lotion is not as irritating as is commonly thought, I shall relate a case. A man came into the ward who had fallen out of a train on his head and been dragged along the track. The skin of the whole side of his head was hanging down over his ear. The bone with some excoriated periosteum was uncovered. Both it and the inner surface of the skin flap were excoriated and grimy with dirt. The edges of the skin flap were not worse than the rest of it. The bone surface and deep surface of the skin flap were scrubbed with a nail brush and 1 to 20 carbolic; a little iodoform was dusted on the surfaces. Horse hair stitches were used and a few threads of catgut as a drain. A salicylic silk and carbolic gauze dressing was applied and left *in situ* for eleven days. The wound was then healed by first intention. There had been little or no oozing into the dressing, which I showed at the Royal Medical Society. It was carefully removed as a gauze headpiece or helmet to show the small amount of discoloration in the deep

layers of the dressing and therefore the small amount of oozing that had occurred. There was no pus. It might be well to mention in this connexion that William MacEwan used to syringe his brain abscesses with 1 to 20 carbolic acid.

We think so much of Lister and antiseptics and asepsis that we are apt to forget that it was Lister also who introduced prepared catgut or absorbent ligatures for blood vessels. He cut the ligatures short and relied upon their doing their work and not absorbing too quickly. Being aseptic they did not require to come away. He did not at once, however, arrive at a satisfactory preparation of the catgut and admitted in later years that much risk had been run in tying cut arteries and ligaturing large arteries in their course by catgut which could not be relied upon to constrict the vessels until the need for such constriction had been rendered unnecessary. He found later that chromicized catgut served the purpose well, in fact some of it too well. But he realized that a perfectly aseptic ligature did not need to be of absorbable material and that silk could be used with safety. Another important aid to healing he found was efficient drainage. He was the first to use rubber drainage tubes. Curiously enough he improvised one on the spur of the moment for no less a patient than Queen Victoria.

As another indication of his ingenuity I may mention that he devised an abdominal tourniquet for the purpose of controlling the abdominal aorta, while Mr. Syme tied the common iliac for a huge aneurysm which was partly in the abdomen. It worked perfectly.

His wounds then were aseptic, were well drained, there was no tension and bleeding was reduced to a minimum. The ligatures no longer had to be long and to hang out of the wound that they might be pulled out when their work was done and, of course, long after the wound should have been soundly healed. When he came to Edinburgh in 1867 as Professor of Clinical Surgery in succession to that great surgeon Syme he was welcomed by the students and especially by Syme and by Dr. John Brown and also by men like Robert Christison, Douglas Maclagen and Wm. Turner, Matthews Duncan and Thomas Keith. He soon gained enthusiastic supporters amongst the students and junior surgeons. Annandale, John Duncan, Joe Bell and most of all John Chiene adopted his teachings, Chiene more thoroughly and enthusiastically than any. Chiene was a bit of a hero-worshipper. His heroes in order of seniority were Marcus Aurelius, John Hunter, Syme and Lister. Not a bad selection and an excellent index to the type of man Chiene was. Chiene was a great teacher and devoted to it. He made his students think, he tried to instil into them the principles of asepsis and the principles of surgery. He told them they would have to learn the practice for themselves. I have heard men say that they learnt nothing from Chiene. All I can say is that it was not Chiene's fault, not at least while he retained his vigour as a teacher. Bickersteth in Liverpool was an enthusiastic supporter and friend of Lister and the first to put his

experiments with catgut ligatures into practice in the case of human beings.

Might I say here a word for the Research Defence Society, the society that has to wage a constant fight against the efforts of the antivivisectionist cranks to have vivisection on animals entirely abolished. For the modest sum of ten shillings a year it is possible to become a member and show an interest in the objects of the society and to support it in that way as well as pecuniarily. I quote the three quotations on the last of the society's little booklets:

Darwin said in 1881:

I know that physiology cannot possibly progress except by experiments on living animals and I feel the deepest conviction that he who retards the progress of physiology, commits a crime against mankind.

We find in the life of Pasteur this sentence:

During the siege of Paris (1870-1871) Nélaton, in despair at the sight of the death of almost every patient after operation, declared that he who should conquer purulent infection, would deserve a statue of gold.

Lister in 1875 wrote to Queen Victoria:

I can hardly do better than begin by saying that I have myself often performed experiments upon the lower animals and that, if I have been privileged in my professional career to do anything for the good of my fellowmen, more is to be attributed to these experiments than to any other work in which I have engaged.

We all recognize the truth of these quotations. How many of us are willing to lay out ten shillings a year in helping to retain the right to use animals for the advancement of science?

Why did Lister go to London from Edinburgh where his success was so great and his popularity so great also? Because he felt that only by personally teaching and working in London could he convince the London surgeons that the germ theory had been proved up to the hilt and that the means of preventing wound infection in surgical wounds had been arrived at. He felt also that the London surgeons were worth convincing. Lister went to a post specially made for him as extra Professor of Clinical Surgery at King's College in 1877. In 1874 Erichsen had published the results of all amputations in his wards, of 307 patients 79 had died, a mortality of 25%. Of this mortality Erichsen though not perhaps proud, was pleased, as it contrasted with the 30% and 40% in other hospitals. In military hospitals it often reached the appalling ratio of 75% or 90%.

Lister was often blamed for not publishing statistics. His answer and attitude was that he found he could employ his time more usefully in other work. His belief also in the value of statistics was not great.

When he went to London he found himself in an atmosphere entirely antagonistic to the germ theory he had come to preach and therefore antagonistic to his methods for combating infection in wounds and as a consequence combating surgical mortality. Lister's first month in London was entirely disappointing. The profession was apathetic, when not antagonistic. Instead of sixty beds full, as in Edinburgh, he had a couple of dozen empty ones. In-

stead of three hundred to five hundred eager listeners as in Edinburgh there were some twelve to twenty students "lounging with a listless air at his lecture." This was the reception to man who knew that he was there to teach a system which was revolutionizing the world's surgery. It was two years after he had visited the chief centres of surgery in Germany, when the German surgeons had converted his journey into a triumphal procession and eight years after his methods had been adopted by Saxtorph, of Copenhagen. But a month after he had settled at King's College an opportunity came. A man with a broken knee-cap was admitted to his wards. No London surgeon would have thought of cutting down on the split bone and wiring the pieces together. They would not have dared to run such a risk of infecting the knee joint. Lister fearlessly cut down on the fractured patella and joined the pieces together with silver wire, an operation introduced by him. A distinguished London surgeon, hearing of this operation, said to his students: "When this poor man dies someone ought to proceed against that man (Lister) for malpraxis." The patient, however, recovered with the injured knee as good as the sound one. Soon after a patient with an enormous malignant tumour of the thigh was sent to Lister. Other surgeons had refused to operate. Lister removed the cancerous limb. The members of the staff and students visiting the patient were astonished to find him in a day or two sitting up in bed and reading the paper, free from pain and free from fever. John Wood, Lister's fellow Professor, was one of the witnesses of this case. He at once abandoned the test which Mr. Timothy Holmes had proposed of comparing the results of the two professors at King's, namely his own and Lister's, and invited Lister to teach him the antiseptic method. A patient with a goitre was set aside in a special ward. Wood operated, Lister assisted and supervised the antiseptics. The surgeons of King's and of many other hospitals crowded in to see. The result was eagerly watched. The dreaded suppuration never appeared. The wound healed perfectly. From this time the surgeons of King's were convinced and John Wood who was to have been Lister's rival, became his friend and follower. He demonstrated his generosity when convinced. But it was damned hard to convince him and others. These three operations did more than all the statistics in the world.

Sir James Paget, considered to be the most philosophic and famous of London surgeons at that time, but an unbeliever, came to see Lister's work. A young lady of a well-known family consulted Sir Prescott Hewett, the President of the College of Surgeons, on account of a large disfiguring tumour over her scapula. He refused to incur the risk of operation. Sir James Paget also refused to operate, but very generously advised the girl's parents to ask Lister to operate. Both of these great surgeons witnessed the operation. In a few minutes the tumour was removed. Recovery was complete and without pain or fever.

The three cases at King's and the case of Paget's teach a great deal more than merely the success



of Lister and his methods. Lister was on his trial in London and his methods and his teaching were on their trial. It must be remembered he had devoted his life to this teaching, that he had relinquished a great place and congenial surroundings to convince the London surgeons of its truth and of its importance to surgery. It must be remembered also that had he possessed any doubt of his methods, what would have counted more to Lister even than these considerations, would have been the thought that the patients would probably pay the penalty with their lives, should his confidence not be sustained.

In 1874 Erichsen had said that "surgery in its mechanical and manipulative processes, in its art in fact, is approaching if it has not already attained to something like finality of perfection." But as Wrench says he had not reckoned with the discoveries of his quondam house surgeon.

Erichsen believed that the abdomen, the brain and the chest would be "for ever shut from the intrusions of a wise and humane surgeon." Thomas Keith in Edinburgh and Spencer Wells in London who had both adopted antiseptics, soon showed how wrong he was by their brilliant lists of ovariectomies without a death.

Successes in Scotland and Germany continued to be published. Surgery instead of being confined to absolutely necessary operations and being considered much too dangerous for those which would only be expedient, was now to be safe for the most daring operations and all due to the genius of Lister in discovering the causes of wound infection and the means of preventing it and to his pertinacity in driving the knowledge he had acquired home to others. The profession in England and Scotland and especially in London had no reason to be proud of the tardiness with which his teachings were accepted. The real reason was failure on the part of surgeons to take the trouble to study the initial and following steps of Lister's progress to his conclusions. When antiseptics were employed, the initial reason for their use was so little grasped that the bad results obtained were ascribed to them and not to the surgeon's technique. I myself in the early 'eighties saw a senior surgeon in a large London hospital operating, with the aid of a carbolic spray *et cetera*, but when the knife was not in use, it was laid on the untreated blanket which covered the patient!

In 1885, twenty years after Lister's initial discoveries, Hahn, of Berlin, said to me: "In England you do not think anything like enough of Lister. In Germany we think him a king." I assured him that in Scotland we thought him one also and that the English were coming to the same conclusion. I had found that the surgeons in Vienna shared this Berlin opinion.

It is quite possible that the carbolic spray helped to delay the acceptance of Lister's teaching. He tells us himself in 1887 how glad he was to dispense with it, which he did because he concluded that it could not kill the germs in the air.

Lister by his methods and by his successes proved that for surgical wounds the routine I have already described was in his hands successful and sufficient. He considered that the carbolic lotion used for the skin of the patient and the hands of the surgeon rendered these aseptic. He did not think what was called in contradistinction aseptic surgery was an improvement. He thought it more complicated and to be more apt to fail. He thought that the use of gloves was not an unmixed good, that their use was apt to make the disinfection of the hands less thorough and that the presence of the smallest hole in a glove would then be a source of great danger. Practically his teaching was to keep the hands as aseptic as possible and to disinfect them especially after they have touched infective matter and that this could be done by carbolic acid lotions. The routine, while the spray was still used, was certainly an indirect help for this purpose because each time the hands were removed from its atmosphere, they had to be redipped in carbolic lotion and their epidermis again saturated with it. He wrote to John Chiene in 1898: "I was so long completely satisfied with the power of an efficient antiseptic lotion to purify the hands of harmful living microbes after dissection, that since my antiseptic work I never abstained from taking part in *post mortem* examinations while I was in full practice as an operating surgeon in hospital and in private." "And," he adds, "I have no reason to doubt the propriety of my action in that respect."

He considered also that the same applied to the work at maternity hospitals. "I believe," he said, "that the day will come (although I am not likely to live to see it) when any man or midwife who neglects strict antiseptic precautions in midwifery, will be considered in the law courts to be guilty of culpable malpraxis if not of homicide when death results." This was also in a letter to "My dear Chiene."

It has often amused me to note the emphasis that is placed by some upon a supposed difference between antiseptic and aseptic surgery. There is no essential difference. There can be no asepsis without the use of antiseptics. Heat is just as much an antiseptic as carbolic acid. Iodine painted on the skin serves the same object as the preoperation soaking of the skin with carbolic lotion. Does it do its work better? Gloves made aseptic by antiseptic treatment prevent insufficiently cleansed hands from infecting wounds. And it must be admitted that complete disinfection of the hands of a surgeon seems to be theoretically impossible. Still, as we have already seen, Lister said it could be done. Gloves should certainly be used to protect the hands when engaged with septic cases and also to protect wounds from hands that have been recently contaminated by infective materials. The personal equation and the thoroughness of the surgeon are all-important, however, and this Lister taught by precept and example. But he objected to any unnecessary technique introduced for effect. Utility was to be the criterion for anything that was done. All



increased safeguards since Lister's routine became established are merely attempts to make perfection more perfect and are not to be discouraged.

I only once had the privilege of seeing Lister operate. It was a case of cleft palate. I took an opportunity of seeing the patient after the stitches had all "held" and the wound healed. It was in 1885 at King's College. He used a Whitehead's gag. I remember purchasing one the same afternoon.

You have all heard of how profusely Lister sweated while operating. He did so when I saw him. The explanation has occurred to me that it was an example of "paralytic secretion" of the sweat glands. The concentration of his whole nervous system was so great on his work that in the case of the sweat glands at least the effect was similar to what it would have been had all their nerves been divided.

Lister's scientific abilities were so thoroughly recognized latterly in London that he was not only made President of the Royal Society and of other societies, but relied upon to take a lead in many matters of scientific interest, matters which might otherwise be considered to be outside his own work. To show how well he merited this confidence and as an example also of his tact, courage and scientific acumen, it may be well to recall the attitude he took at the British Congress on Tuberculosis in London in 1901. Koch then sprang a surprise on the profession and on Lister by announcing that as a result of experiments on calves and on pigs he felt "justified in maintaining that human tuberculosis differs from bovine and cannot be transmitted to cattle" and he more than implied that bovine tuberculosis could not be transmitted to man. To Koch's credit it must be said that he added: "It seems to me very desirable, however, that these experiments should be repeated elsewhere in order that all doubt as to the correctness of my assertion may be removed."

To accept this teaching would have meant the scrapping in Great Britain of much which had already been done to prevent the transmission of bovine tuberculosis to human beings, especially to children.

Lister while admitting that Koch's efforts to transmit human tuberculosis to cattle had apparently failed, contended that even if these findings were ultimately confirmed, it did not at all follow that bovine tuberculosis could not be transmitted to man. In fact he said that there was no reliable evidence to that effect. He ended by saying that "the Congress would probably require a more searching enquiry into the subject, before accepting the doctrine of the immunity of man to bovine tubercle."

We know that Koch's assertions at that meeting have been abundantly disproved. Lister later was able by experiments to prove the transmissibility of human tuberculosis to both pigs and calves. When I saw Harold Styles in Edinburgh in 1915 he was most indignant because at least one distinguished Edinburgh physician had not then joined wholeheartedly in the war he and others were waging

to combat the transmission to children of bovine tuberculosis by means of the milk of tuberculous cows. Thirty years ago I took steps myself to see that the cows supplying milk for my own children were not tuberculous.

Although the germ of asepsis became implanted in Lister's brain owing to the work of Pasteur, French surgeons lagged even behind English ones in their appreciation of and adoption of his teaching. Had they adopted it in 1870, how different would have been the surgical results of that war. American surgeons were perhaps even further behind. It was only after Lister's visit to the International Congress in America in the end of 1876, when he was President of the Surgical Section there, that the antiseptic system and its revolutionizing effect on surgery began to dawn on American surgeons. Its ultimate acceptance may be gathered from Weir Mitchell's letter to Lister when he was raised to the peerage. He wrote:

I certainly never expected to be able to address a physician (meaning medical man) as a peer of the realm. That you should have been chosen to add distinction to the peerage has given the utmost pleasure to many on this side of the ocean. Surely in all the great story of surgical progress there has been no one man who has given to his fellows so great a gift as came from your hand. It is a little thing, a title, but if it represents to you the gratitude of the world, it acquires a larger meaning than if it had been given even for service however great to your own country alone.

Regarding an early appreciation of Lister's work it is impossible to help mentioning more particularly Saxtorph, Professor of Surgery in Copenhagen. He had been so impressed with Lister's reports of compound fractures that he visited Glasgow in 1869. What he saw in Lister's wards made him write to Lister in 1870.

Now I have had the satisfaction that not a single case of pyæmia has occurred since I came home last year, which result is certainly owing to the introduction of your antiseptic system. All the amputations this year have recovered and all the compound fractures, some of them severe ones, have healed without suppurating and consolidation did not take much longer than in a simple fracture.

This was perhaps the first strong testimony from a senior surgeon that Lister had received. In Edinburgh, just before Lister's second period there, Simpson had collected a record of 161 deaths out of 371 amputations in ten years. Lister caused deaths from hospital gangrene and from pyæmia to cease in his Edinburgh wards. After nine months he wrote: "I have had no cases of pyæmia and hospital gangrene has also been absent." Lister had found the previous state of matters in surgical wards "sickening and heartrending." The air of the wards was no longer burdened as Wrench says "with a sweet fetidity" nor at the time of the dressing of the wounds was it charged with a heavy stench.

W.E. Henley, the poet, who had come to the Edinburgh Royal Infirmary to be Lister's patient and whose poems depict very beautifully and very graphically various aspects of Edinburgh Hospital life, wrote of Lister about this time:

His faultless patience, his unyielding will,  
Beautiful gentleness and splendid skill,

His wise rare smile is sweet with certainties  
And seems in all his patients to compel  
Such love and faith as failure cannot quell.

I have not drawn any lurid pictures of hospital gangrene and so forth as they occurred in surgical wards previous to the adoption of Lister's treatment. I never saw a case myself. I hope that none of you have seen one, that is in civil life. Those who treat compound fractures now, can have no conception of their almost invariably fatal termination in preantiseptic days. But surely medicine owes as much to Lister as surgery does. His discoveries initiated and gave the impulse to the germ theory of diseases both infectious and contagious. They indirectly led to our treatment of diphtheria and our prophylaxis in the case of tetanus and of typhoid and other diseases.

Imagine what would have been the death rate in the Great War had Lister not lived, worked and taught.

The world's admiration of and gratitude to him will surely live for ever.

#### ADDRESS ON LORD LISTER.<sup>1</sup>

By C. E. GODDARD, C.B.E., M.D., D.P.H.

I OFFER NO apology for my subject tonight, only for myself, but I am hoping that the subject matter of my discourse will be found of sufficient interest that you will not be inclined to be too critical.

It will interest you because it deals with matters in our own times. It will interest you more because it is the life-story of a great Englishman, one of the greatest, one of the best men of our times. I say Englishman advisedly, because I have been unable to trace the happy blend of either Scotch, Irish or Welsh blood in his family.

It will interest most of you tonight because it makes reference, though very briefly I fear, to one of the most brilliant pages in the history of British surgery, in the annals of surgical and medical science.

Now I do not pretend in the short space of time allotted to me to give you the whole life of Joseph Lister or anything like it; indeed I think you will regard this effort less as a life than as an appreciation, but I do want to present the chief characteristics of this man. I want to place before you a statement of the evolutions of the system which he inaugurated, to tell you of his family circle, of his friends and contemporaries, of some of his difficulties and trials and lastly of the splendid triumph of his life's work.

In doing so I feel I shall fail in my task tonight if I do not convince you that Lister was one of the greatest friends and benefactors of our race, if I do not persuade you, if not already converted, that

the revolution which he wrought in the surgical world, has brought about extraordinary results in our own day and that it promises untold blessings in the years to come.

As far as possible I will endeavour to avoid contention or debatable matter, yet I desire to deal faithfully with the details of the subject as I know them (of course I know them, as I held two appointments under him and was otherwise associated) bearing in mind the fact that we are here tonight to do justice, to do what little reverence and honour we can to the memory of one who only a generation ago did so much for us.

Let us trace the history from the beginning.

#### Lister.

Joseph Lister of English lineage on both sides was born on April 5, 1827, just a hundred years ago, at Upton House, Upton Village, in a district now known as West Ham. As you well know, this region at the present time is regarded as almost without beauty or without charm. Dr. Wrench in his excellent life of Lord Lister says that the village of Upton in the early part of the nineteenth century was set among pleasant meadow lands, parks and stately houses. In this neighbourhood a number of Quaker families had gathered known to the Listers; perhaps the chief of these was that of Samuel Gurney, of Ham House and Park, known as the bankers' banker. Samuel Gurney's sister, Elizabeth Fry, the famous philanthropist, was there too. You remember she did so much for the women of her day and for the sufferers in hospitals and prisons.

Upton House was the home of Lister's father, Jackson Lister, and at this time was surrounded by a spacious garden and by fields, the estate counting about sixty acres. This father of Lister was quite a remarkable man. It is said that when a child he was short-sighted and in order to see the landscape from his nursery window he was accustomed to glue his eye to an air-bubble in the glass, the bubble, of course, refracted the light and enabled him to see the country with greater ease. This led to a valuable discovery and from the time of youth he made optics his special study and not only this, he became famous in the science. At that time, microscopes of high power always presented an image with blurred and coloured outline. Jackson Lister overcame the obstacle and was able after long experience to put together lenses, so that a clear definition was obtained. Later, he became so proficient in optics and original microscopic work, that in recognition he received the high distinction of being elected a member of the Royal Society.

Jackson Lister had seven children, Joseph Lister was the second son. The home atmosphere was one of comfortable affluence, earnest faith and practical goodwill—very characteristic, you will say, of a Quaker family, add to which a devotion to science and microscopic study, so useful to him in later years.

There seems to be no notable recorded anecdotes of Lister's early years; his life as a child was said to

<sup>1</sup> Read at a meeting held at the Post-Graduate Hostel, Russell Square, London, on January 4, 1927.

be serene and happy; he was shy and reserved with strangers, but full of high spirits at home. At times he displayed an unusual gravity and always a refined sense of truth both to himself and to others. I suppose no son was ever more devoted to a father than Lister was to his. In that classical life of Lister by Godlee, there is constant reference to the letters that passed between them, showing the intimate and affectionate relationship that existed to the end.

His early education was received at a Quaker school at Tottenham, Wilson Fox, the well-known physician, and William Forster, the Liberal statesman, were among his school fellows. The address of Thee and Thou among the Friends and their eminent piety ruled throughout. From this school, Lister went to University College, Gower Street, in 1844, took his B.A., and then passed over to the medical side.

Directly Lister entered medicine he got into his stride and was soon recognized as one of the best students of his year. He obtained Gold and Silver Medals and a scholarship in surgery, the Fellowship of the Royal College of Surgeons and then became house-surgeon to Ericson, the well-known surgeon of that day and the author of the book on surgery which all then used even to my day.

In his work at University College Hospital Lister first came into contact with the appalling forms of blood-poisoning known as hospital gangrene, pyæmia and septicæmia.

I do not suppose that even you can conceive the condition of hospitals in that day and, of course, for ages before. There was then no certainty that a surgical patient would not become septic in a few hours and die in a few days! In some wards blood-poisoning would occasionally wipe out half the patients; in the seventeenth and eighteenth centuries the conditions were always bad, two or three would occupy one bed, Sarah Gamp nursing them. After an operation it seemed to be understood that the chance of a patient getting out alive was little more than an even one and whenever there was a wound, the dread foe of pyæmia or other septic poison awaited him, but none of these possessed the peculiar horror as the disease known as hospital gangrene.

Lister saw all these disease and set out with the enthusiasm, hope and determination of a young scientist to find a cause and if possible to apply a remedy.

In his student career at University College Hospital three men made a marked effect upon him and his future work. Professor Lindley, the botanist, from whom Lister gained that great knowledge and love of flowers which he exhibited all his life, especially when in Italy and Switzerland; Professor Graham, who gave him such a grasp of chemistry so useful later, and Professor Sharpey, who made him his favourite pupil and did all he could do to advance him in his career.

One of Sharpey's best friends was James Syme, the great Scotch surgeon, and here I must digress to make reference to him. Sharpey introduced

Lister to Syme who was and had been for twenty years professor of surgery at the Edinburgh Infirmary. Syme was then in the zenith of his fame and was probably the most remarkable surgeon of his time and not only that, but a very versatile man, among other things an inventor; he invented mackintosh. He was a brilliant teacher and a good writer; his classes were more crowded with students than any in the kingdom.

In character he was a large-hearted man, generous and upright, staunch as a friend, very formidable as an opponent. In a controversy no one was willing to take the field against him, as few came out the victors.

It was arranged that Lister instead of returning to London should stay in the Scotch capital and become Syme's house surgeon at Edinburgh Infirmary. I smile when I think of it. Syme must have broken the usual Scottish golden rule for he actually appointed an Englishman and not another Scotsman.

The hospitality of Millbank, Syme's beautiful home outside Edinburgh, was open to Lister and to scores of others. Syme had two daughters, Agnes and Lucy. Lister fell in love with Agnes and they were married in 1856. Up to this time Lister adhered to the Quakers or the Society of Friends, but upon his marriage he joined the Church of England; he "married out" according to the phrase of the Quakers.

There were no children of the marriage, but it seems to have been an exceedingly happy one. Their great friend Dr. Brown said their marriage was a life-long honeymoon.

She certainly was a wonderful wife and devoted herself utterly and entirely to his interests all her life, wrote volumes of notes at his dictation, kept his crucibles going all night if necessary and in a thousand ways was useful to him and yet posterity will hardly hear of her virtues!

In this connexion one cannot help thinking of another woman, the sister of the astronomer Herschel, who whilst working at his mirror day and night was so lost and absorbed as to be quite indifferent to outside influences, whilst this devoted sister put food into his mouth!

I remember Lady, then Mrs. Lister, quite well at some of their dinner parties at 12, Park Crescent, and shall not readily forget the calm serenity of her face. As a child she had had an illness and had been unconscious for several days. One of her friends said she had been to heaven and had borne the mark of it ever since! She was a very gentle lady who had evidently never lost her shyness and reserve.

My distinguished friend and fellow-student Sir St. Clair Thomson, who knew the Listers so well, said that often when he went to Park Crescent early in the morning to go with Lister to an operation, he found Mrs. Lister preparing and checking the instruments, that she appeared to have no interest beyond her husband, that they were inseparable companions on all their holidays and that Lister was a very lonely man after her death.



In his younger days under Syme, Lister must have assisted in many of the operations and advances that were in fact dramas; one such among many related by Dr. Wrench may be mentioned.

A young man had been stabbed in the neck by an enemy and brought at once to the hospital, the knife had wounded, but had not severed the carotid artery low down and the blood was slowly collecting round the windpipe and was throttling him to death. Syme decided to make the attempt, Lister assisting. The theatre crowded with surgeons and students, the operation commenced, chloroform being administered. I will not give details, but it proved a very difficult operation. Syme and Lister stood back and it was seen that the hæmorrhage had ceased and the patient was safe.

I ought to have mentioned before that Syme at the age of twenty-four really established his reputation by performing the operation of amputation at the hip joint for the first time.

Only a surgeon can really appreciate what such an operation meant in those days, to the patient as well as to the operator. For there was then no chloroform; it was in fact a fearful ordeal, yet under the eyes of his seniors with a magnificent confidence Syme dared the most formidable operation for the first time without having seen it before.

I shall never forget the more serious cases under Lister and may refer to one. A handsome, splendid type of man, a guardsman, who had a few weeks before gained the Victoria Cross—as a matter of fact he was one of the few survivors at Rorke's Drift—was being operated on for a bare gun shot injury to the shoulder. Lister suddenly noticed that the bleeding had stopped and, on looking up, found that the poor man was apparently dying. In a moment, seizing the tongue with forceps, brushing the anæsthetist on one side, he started artificial respiration by Silvertown's method. The theatre was full and not a sound was made, till presently we heard a gasp and then another and with a sigh of relief we saw the gallant chap gradually restored to life. Lister then completed the operation and sent the patient back to the ward. The next day (he was in one of my beds) I asked him how he felt; he said he was all right, but could not make out why his tongue was so sore. I did not tell him of the perilous journey he had made!

Lister was appointed lecturer in surgery and Assistant Surgeon to the Edinburgh Infirmary and now started his researches and experiments into the subjects of inflammation, putrefaction and kindred matters. He must have made thousands of experiments in Edinburgh, in Glasgow and in London.

It is not to be supposed that his assistants always appreciated their importance or the need for their rapid completion. The late Professor Annandale, recalling his experiences, said: "I confess our patience was a little tried when the dinner hour was many hours overdue, but no one could work with Lister without imbibing some of his enthusiasm."

We always noticed at King's that he was determined to complete any special work on hand even if it made him late for the next appointment and never felt the least resentment, but we should have been better pleased if the distinguished foreigners who swarmed through Lister's wards, had not prolonged their visits. Very wisely Lister showed the greatest courtesy to these visitors, speaking German, French or Italian, as occasion required.

At the end of 1859, Mr. Laurie, the Professor of Clinical Surgery at Glasgow died and Lister was appointed.

Leaving his great friend and master Syme and the students who were devoted to him, must have been a severe wrench, but he knew that Glasgow would provide the exact material for his investigations. He must have known, too, that the full surgeoncy to the Infirmary would follow in due course and it did in 1861, but it took more than a year for his cautious colleagues to make up their minds.

It was in the wards of this hospital that the young surgeon then but thirty-three, was destined to make the scene of one of the triumphs of mankind. I like to emphasize this point, because at the time of taking charge of these wards they were the hotbeds of pollution and disease.

In this respect they did not differ from the wards of other hospitals.

Sir Hector Cameron who had been one of Lister's house surgeons, said later: "In the atmosphere of every surgical ward (no matter how well ventilated) there was a sickening odour which tried the new student as much as the unaccustomed sight of the operation theatre."

John Bell's description is vivid and gruesome; he said: "Only think of the danger of the charity of these institutions without understanding of the tender heart, without the governing mind; it were better for a man to be placed on a dunghill or in a stable than to let him remain in a house of charity that his friends had provided for him."

It was evident that the goodwill and benevolence of the public had for long years past, as now, been poured out for the sick and afflicted and until this king among surgeons appeared, the only result was a scene of repulsive horror, pollution and sights of agony.

There was indeed a wonderful exhibition of surgical skill always displayed, but it was liable to be neutralized or destroyed at any moment by preventable causes.

Many things led up to a change; finding matters no better at Glasgow than at Edinburgh, Lister concentrated his whole soul in finding a remedy, thinking neither of fame nor of remuneration.

Had you known Lister as we did you would have said that he possessed the philosophic temperament in a marked degree. Even in Scotland, the home of British philosophy, there was then no definite recognition of the need of the philosophic mood if medical problems had to be attacked and remedies rightly valued. Sir Hector Cameron said: "I once told him that I believed he had the power of making



himself strange to the familiar." This pleased him, but he did not indicate that he possessed any such mental advantage.

The change came very gradually taking years to develop, yet every step was a forward movement.

His first work in antiseptics was upon compound fractures. Nowadays a compound fracture, though serious, antiseptically treated at once need not be much worse than a simple fracture. In Lister's early days it was a calamity; the wounds were generally poisoned, amputation generally performed and often the stump became affected.

The statistics of that time showed that forty out of every hundred died and the rest were more or less crippled.

You would have been better off generally in the gutter than in the surgical wards of a hospital in those days.

In these days you will always find the poor regard the treatment received at hospital with gratitude and respect, but it was not so even fifty years ago. It is said that when Sir Frederick Treves was young, his surgeon instructed him to obtain a woman's permission for an operation on her daughter. "Oh," she said, "it's all very well to talk about consenting, but who is to pay for the funeral?" and the question was reasonable.

Lister gradually evolved a method of treating wounds with carbolic acid, constantly changing the strength and consistence of the preparation applied. He inaugurated a system of the most vigorous cleanliness in every detail. A little thing is a little thing, but faithfulness in little things was to him a very big thing; no detail was too trivial for trial.

It seems ridiculous to us now, but cleanliness was not always a definite habit with surgeons. Often they did not wash their hands. I can remember the silk or thread being hung on to the button of the coat; the abscess lance wiped with a piece of rag and returned to the waistcoat and I very well remember the pride taken in a special operating jacket none too clean.

Before that period it is recorded that Sir Ashley Cooper, a great man and celebrated surgeon, had to excise a wen from the scalp of George IV and, knowing the irregular habits of the patient, feared lest erysipelas might set in. On the following day he was summoned to the palace and went in some trepidation and, though the King was not really ill, Sir Ashley noticed that he was not favourably received. On returning home he asked his nephew if there was anything wrong with his appearance. "Well," said the nephew, "you might at least put on a clean cravat and shirt and washed your hands all be spattered with blood." "God bless me, so I might," said Sir Ashley—"and the King so very particular." So you can judge for yourselves, that which a king's surgeon of great reputation did not think necessary, the rest of the profession would not do.

Lister's house surgeons, dressers and nurses were compelled to scrub their hands frequently, use abundant towels and dressings (in spite of the frequent expostulations of the House Committee and Sister

Amy alleging extravagance) and, of course, all had to conform to scores of necessary cleanly details.

Lister had been working some years before he knew of Pasteur's work and the fundamental importance of microscopic life and it was the application of this knowledge that enabled him to complete his system. It was therefore in the province of science outside medicine that the early and essential details of his system took their origin.

Lister never concealed the fact of his indebtedness to others. He said: "I have done no more than seize upon Pasteur's discoveries and applied them to surgery."

It was several years before Lister learnt that Semmelweis, an Austrian surgeon, had preceded him in the work. Semmelweis, poor man, was so shamefully persecuted by his colleagues that he died broken-hearted, before the world realized what a splendid effort he had made. Lister acknowledged his priority and deplored his fate.

In 1856 Pasteur repeated the observations of Swann and Latour of 1834-1835 with yeast and lactic acid fermentation and demonstrated the cause of putrefaction. Applying these theories of Pasteur to the treatment of wounds Lister perfected a system which laid the foundation of the methods now employed universally. He was, therefore, the founder of modern surgery.

At once it became possible to open up, explore and to operate on the internal organs without grave danger; removal of kidneys, spleen, ovarian cysts, appendicitis and hosts of other serious operations were made possible and safe for the first time and the revolution extended, of course, to midwifery and even to medicine.

In affecting these reforms the extraordinary thing was that Lister had to contend with the most bitter and strenuous opposition and that from his professional brethren. For instance, when he opened a knee joint at King's for a fractured patella and joined the fragments with silver wire an eminent London surgeon said: "If that patient dies, it would be proper for Mr. Lister to be prosecuted for malpraxis."

A strong partisan in those days, I did not understand what seemed to me to be unreasonable opposition; later on I realized that these eminent surgeons were leaders in surgery and I could imagine how difficult it must have been for them to adapt themselves to a new *régime* which Lister had not quite perfected; even he was still using the spray. He had taught himself and the whole scientific world junior to himself, but his seniors or contemporaries fought shy of advocating a system they themselves had not embraced.

I well remember those operations on the knee joint at King's. Before that date no one dared to open a joint if it could be avoided. Lister invented operations and instruments. He spent years in experimenting with catgut till he got exactly the kind he wanted, a ligature that would gradually become absorbed, not too soon, but at a given date. Before that date as you know long silk threads hung from a wound and usually became septic. All the

modern dressings, of carbolic, boracic, iodoform, double cyanide, salalembroth lint and gauzes and so forth were his work assisted by his good wife and by Sir W. Watson Cheyne and all the modern improvements in technique are directly and indirectly due to his influence.

Lister was never what you would call a brilliant operator like Sir W. Fergusson, Syme and others. The students did not take out their watches to see if a limb was removed in fifteen or twenty seconds. He used to say: "We have chloroform, why not be deliberate," but he was certainly recognized as a fearless, skilful operator and anatomist and he was certainly a very impressive lecturer.

With regard to the use of chloroform, he was enthusiastic about it—one of the first authorities! He used to declare that there was very little danger if administered with a free admixture of air. So great faith had he in its general use that he permitted his clerks to administer it on all occasions, with the open towel, the face freely exposed and the chloroform thrown on, not carefully measured. Given in this way it certainly answered well, though occasionally we had some anxious moments. However, we knew he had an eye on us, as well as the patient. I am sure there must be scores of us who have given chloroform in this way without any apparatus, especially in confinements, with good effect.

Lister's great trouble at operations was his tendency to perspire, his extraordinary diaphoresis, requiring a nurse to mop him continually whilst operating.

He was bitterly opposed in Glasgow. He was absolutely neglected in Edinburgh with the exception of Mr. Syme, Mr. Annandale, Mr. Joseph Bell and, of course, his students. Strange to say no one was so vehemently opposed to him as Sir James Simpson, the discoverer of chloroform, a prominent surgeon, an important, masterful man, a persuasive and convincing speaker, but great man as Sir James undoubtedly was, he cannot be considered one of the greatest, as he must have permitted his prejudice to override his judgement. Sir James Simpson had advocated the destruction of all hospitals and the erection of huts because of the prevalence of gangrene and pyæmia. Lister's new system rendered such a change unnecessary.

Simpson had invented acupressure for the arrest of hæmorrhage. Lister's aseptic ligatures gradually displaced this method. In the controversy which followed—and it was bitter—by calmness, courtesy and tact Lister was able to justify his position, though it was years before the majority of surgeons could be convinced.

Oddly enough the first recognition of Listerism came from the great German surgeons, von Nussbaum, von Volkmann, Schultze and von Busch; indeed all these eminent surgeons became experts in the details of his technique and they one and all urged him to visit Germany, which he did in 1875.

When you read of this first visit, it assumes the actual character of a triumphal march. He was received with extraordinary enthusiasm in Berlin,

Halle, Munich, Leipzig, Bonn and elsewhere. He was hailed as the greatest conqueror of disease the world had seen and all seemed bent on proclaiming his fame.

Lister returned to Edinburgh feeling convinced that the conversion of all surgeons was now in sight.

In 1877 he was invited and accepted the chair of clinical surgery at King's College Hospital on the death of Sir William Fergusson. I have reason for remembering this, for I entered King's as a medical student on the same day.

No one who was present at the introductory lecture on that day, will ever forget the address by Lister when he expounded some of his new principles. I remember he exhibited, among other illustrations two flasks containing milk and urine respectively, two highly putrescible fluids, nine years old, as pure as when first boiled and yet the air was going in and out all the time! This experiment demonstrated the fact that so long as no dust reached the fluids, they would remain sterile, the particles of dust being prevented from touching the fluids by having the necks of the flasks finely drawn out bent in different directions, the dust settling in the convolutions.

In spite of the welcome given to Lister in Germany, I regret to say he was practically ignored in London as he had been in Scotland for at least two years by nearly all the eminent surgeons. He was actively opposed by Lawson Tait and especially by Savory at Saint Bartholomew's Hospital. I know, because I used to go round with Savory to hear what he really did say and his contention was that strict cleanliness was sufficient, but even you know that if a single swab, instrument or dressing is not sterilized, there is grave danger of noxious germs being introduced.

It is pleasant to think of the great men of our profession who flourished in that day. Here are a few: Sir William Jenner, one of the Queen's physicians, a really great man and the chief authority on typhoid fever; Sir William Gull, another famous physician; Sir James Paget, a surgical saint, said to have been a physician in disguise, an orator because of his pathological knowledge; Timothy Holmes, a scholar, revered and esteemed by all, teacher and famous surgeon, somewhat dreaded in the examination hall; Savory, of whom I have spoken, Sir Thomas Bryant, Sir George Johnson and many others.

To return, gradually the importance of Lister's work was recognized and understood, but it was not till after the International Congress held at Amsterdam in 1879 that the final acceptance really came. *The British Medical Journal* in describing the feeling on the Continent said: "Professor Lister was received by the whole Congress with an enthusiasm which knew no bounds. When he stepped forward to the desk, the whole assembly rose to their feet and with deafening and repeated rounds of cheers, hailed the distinguished Professor of King's with acclamation time after time."

After this conference meetings and discussions were held in London and it was seen that as a whole

London from Sir James Paget downwards accepted the new doctrines of Lister.

And so with hospital work and private practice, experimental work and teaching, Lister's London days were full, then followed his honours.

As a consequence of an operation on Queen Victoria he was appointed Surgeon to Her Majesty, then Surgeon Extraordinary, then Sergeant Surgeon. I can imagine what Her Majesty thought of him. His very courtly manner, his deferential courtesy to the other sex were beautiful to behold even to the poorest woman in the hospital.

In 1883, Her Majesty conferred a baronetcy upon him and in the second Jubilee raised him to the Peerage. He was the first doctor to become a lord.

Lister assisted, you may remember, at the late King's operation for appendicitis by Sir Frederick Treves and later and when he was made a Privy Councillor, King Edward said: "Lord Lister, I know well that if it had not been for you and your work, I should not have been here today."

In 1883 Austria and Hungary did him honour. We heard of banquets, torchlight processions and meetings of the most distinguished scientists.

At another International Congress at Berlin in 1890, the great Virchow in the chair, Lister received an ovation greater than before.

In Great Britain, especially in Scotland, he received now the same reverence and gratitude. Universities and academies showered degrees upon him and municipalities their freedom.

Perhaps the most notable of all the demonstrations was the one held in Paris at Pasteur's Jubilee in 1892, celebrated with great pomp and ceremony. Lister represented Great Britain and in his address gave full credit to Pasteur, taking none himself. Pasteur could not control himself, he hurried to Lister, led him to the centre of the platform and there embraced him in typical French style, whilst the spectators thundered their applause.

Before I finish I must add a few words about his character and his personality, as we knew him and as he was known.

When Lister came to King's, he was fifty years of age, in the prime of life, tall, about five feet eleven inches, broad shouldered, healthy looking, with clear complexion, a handsome man with fine presence and erect carriage. He had a profusion of thick iron-grey hair and, except for side-whiskers, was clean-shaved. His costume never varied, black frock coat, greyish trousers, small black tie; you could not imagine him in any other dress, except in the evening. His voice was low and musical. He was said to have stammered slightly; I never heard it; at least it amounted to no more than an occasional hesitancy and catching of the breath.

His pictures give only a suggestion of what he was; to a young man he was an ideal hero in real life! We had never seen anyone like him before and scores of men now living, who had been associated with him, will tell you the same. He had a magic influence which compelled respect and

esteem, amounting to reverence and this must have been potent to influence a body of medical students of my date.

Sir Harold Styles, Professor of Surgery in Edinburgh, speaking at Philadelphia in October, 1921, said: "Of all my predecessors, the immortal Lister stands out preeminent and I refer to him with the deepest humility as I am only too conscious of my inability to maintain the great traditions which he created in the Edinburgh school."

The Reverend Dr. Wallace Williamson has contributed to the history of medicine, a life-like word portrait of Lister in the following terms:

Of Joseph Lister's winsome personality those speak most warmly who know him best. It was his gentleness above all that made him great. His very presence was a spiritual force. Clear-eyed and pure of soul, he cherished from earliest days that love of truth which guided him to the end. His noble passion for humanity extinguished all thought of self and personal fame, impelling him on till he found the great secret of his search. Yet greater than his greatest achievement, was the man himself. His was the grave and thoughtful courtesy which bespoke the Christian gentleman and the earnest lover of his kind, hence we are not surprised to learn how he stirred enthusiasm and moved men to reverence and how he gained such love and affection as rarely fall to a scientific teacher. That such a man dowered with God's gifts of genius should rise to lofty heights and achieve great things, was inevitable.

I suppose no great doctor was ever more considerate than he was to his patients. If prevented from attending the hospital, he would always send a telegram or express message (there were no telephones) to prevent some poor man or woman attending in vain, mentioning them by name.

He never spoke of his patient as a case; it was always this "poor fellow" or "lad" or this "poor woman" or "lady." His courtesy was extraordinary; here Mrs. Browning's lines may occur to you:

A poor man served by thee shall make thee great,  
A sick man helped by thee shall make thee strong;  
Thou shalt be served thyself by every sense  
Of service which thou renderest.

Lister had to a marked degree that extraordinary quality of detachment, often noticeable in great men, a quality which seemed to add force to his independence of thought and action, but one which cannot be easily explained.

Though invariably courteous and friendly I believe that he was really intimate with few men. However devoted, they were all a little afraid of him. Sir W. Watson Cheyne, the eminent surgeon, his companion and assistant for many years, who came from Edinburgh and was so closely associated with him till his work was finished, has said that he never really got over a certain awe of him and others have spoken to the same effect.

Lister seemed a total stranger to any kind of frivolity, but was sometimes full of quiet and quaint humour. One day in the ward waiting for the Sister to finish, he said to me: "Mr. Goddard, do you regard the patient in the bed as young?" "Oh, no, sir," I replied; "she is getting on." "Ah!



that's where we differ," he said. She was thirty-nine; he was fifty-three; I was nineteen!

On another occasion when I took the larger picture for his signature, having finished, he picked up a black bag in a hurry and said: "Do you know where I am going?" I said: "To an operation, I expect." "No," he replied, "I have only a pair of skates in this bag and am off to the Welsh Harp at once."

He was seldom angry, but I remember an occasion when he boiled over. A man with a badly united fracture was brought in and he expressed his surprise and disgust that by neglect, "one of the creatures the Almighty had taken ages to perfect should be mutilated."

On another occasion, he said: "To intrude an unskilled hand to such a piece of Divine mechanism as the human body is indeed a fearful responsibility." He showed impatience, too, when surgeons failed to practise the smallest and necessary details of his methods and yet called it antiseptic treatment.

In 1893 the time limit had arrived for Lister to leave King's College Hospital and this was a grief to him and to all others concerned. In the summer of the same year, his good wife died suddenly and unexpectedly whilst they were away on holiday in Italy.

Honours still continued to flow his way; the Order of Merit was conferred, and he still appeared to carry on the good work in many directions, but only for a few years. When Lady Lister died, the link was broken and his labours were practically ended.

In 1903 Lister had a serious illness from which he never really recovered and he left London in 1909 finally and lived in close retirement at Walmer where he died in 1912 at the age of eighty-five.

For ten years he had been so invalidated as to be practically out of the world and when the end came the public could not be said to be greatly affected by the loss and only a few intimate and privileged ones could realize that a great soul had departed.

An impressive public service was held in the Abbey; his remains were laid to rest with those of his wife, by his special request, at Hampstead, where you can see a plain, grey, granite stone bearing the inscription:

JOSEPH BARON LISTER  
BORN APRIL 5TH, 1827  
DIED FEB. 10TH, 1912.

At that public service, no disciple of the master was absent, who could possibly attend, to pay a last tribute to a man who had made humanity his debtor. On that occasion Handel's anthem was given; may I remind you of the words than which none could be more appropriate?

When the ear heard him, then it blessed him, and when the eye saw him it gave witness of him. Kindness, meekness and comfort were on his tongue. If there was any virtue and if there was any praise he thought on those things. His body is buried in peace and his name liveth evermore.

The centenary of Lister's birth occurs next April and the special committee of the Royal Society will soon be suggesting a programme to celebrate it.

There is no national memorial to Lister worthy of the name, though one feels sure that the only memorial he would have approved of would have been in the direction of scholarships for research.

One of the admirable things about the man was that though in affluent circumstances all his life, he avoided luxury and pleasure and led a life of devotion to science and work for others. His life can easily make us all feel ashamed of not having used our time to better effect, makes us less proud that as a nation it was left to him to purge our hospitals and perfect surgical technique when such reforms should have been accomplished long years before, makes us feel the awful reproach that whilst millions are squandered in horse racing, drink or excess of pleasure, our hospitals are all bankrupt and we still have such diseases as tuberculosis, influenza, venereal disease, whooping cough, cancer—all probably preventable if the best brain power was fostered by the proper and adequate expenditure of money.

Let us all hope that the time is not far distant when, seeing what one man achieved in his lifetime, we shall realize more fully how much there is still to be done in medical and surgical science and especially the best of all causes—the science of preventive medicine and public health.

#### THE HOSPITAL QUESTION IN NEW SOUTH WALES.

By THOMAS HAMILTON, M.B., Ch.M. (Sydney),  
*Medical Superintendent, Newcastle Hospital,  
New South Wales.*

IN recent issues of THE MEDICAL JOURNAL OF AUSTRALIA the hospital question in Victoria and South Australia has been discussed and the present hospital systems in vogue have been trenchantly criticized. As an attempt is at present being made in New South Wales to improve the hospital system by means of government legislation, a brief review of the problems in that State may not be out of place. The problem of finance is inseparably associated with any study of the hospital position in New South Wales. All its large hospitals are heavily in debt; in fact, three of the metropolitan hospitals are working on guaranteed overdrafts in the vicinity of £100,000 each. Financial problems therefore loom largest in the forefront of the hospital field and the object of the present Hospital Bill is *inter alia* to raise funds to place the hospitals on a sound financial footing. The bill which is sponsored by the Minister for Health and has apparently been drawn up in a purely tentative fashion, seeks to solve the financial problems of the State's public hospitals: (i) by the system of industrial contributions, (ii) by levying a rate upon the unimproved capital value of land, (iii) by conducting State lotteries on the lines of the Queensland Golden Casket scheme.

At the present time the hospitals with one or two exceptions are maintained by voluntary contributions, a system which as Dr. A. E. Brown remarked



in a recent issue of THE MEDICAL JOURNAL OF AUSTRALIA, "is anomalous, absurd and inefficient," so that the Government's endeavour to obviate the necessity for charitable contributions and substitute for them a stable form of finance will be welcomed by all reasoning members of the general public.

Hospitals by constantly appealing to the public for financial aid have sorely tried the patience of the community and in recent years a marked change has taken place in the psychology of the people on the question of public hospitals. The general public, owing no doubt to the rapid growth of the hospital as a community asset, is now demanding increased service from it. The individual considers that he has a right to all the privileges which a general hospital affords, and this by virtue of the odd shilling which he deposits in the collector's box on Hospital Saturday. He does not realize that it costs more than £3 per week to maintain him in hospital and that the services of the honorary medical officer who attends him are totally unpaid. Who can blame the average person for this viewpoint? Although it is a selfish and mean one, it has been engendered by the absurd system under which our hospitals are financed and by the lack of any concerted protest on the part of the medical profession. Medical men have too long remained in the background and allowed the anomalous position to arise according to which hospital boards, composed mainly of lay members, calmly calculating upon free medical service for the institution they are administering, and regarding it not as a gift generously given to the hospital in a spirit of charity, but as an established right, assume that as a profession we are fully satisfied to continue under these conditions. Medical men, while hospitals were given over to the sole care of the sick poor, were glad to give their services in an honorary capacity, but now that public hospitals are being used to an ever-increasing extent by the "able to pay" class and abused by the meaner members of the wealthier classes, the average hospital honorary rightly feels that his charitable work is being unblushingly exploited.

The greater pity of it is that this exploitation is not confined to individuals who may be reasonably supposed to know better, but is being practised by wealthy corporations who seek to take every advantage of the hospital in evasion of their obligations to their employees under the new *Workers' Compensation Act*.

There is only one remedy for this condition of affairs and that is for the medical staffs of hospitals to insist through the Branches of the British Medical Association on their having adequate representation on all hospital boards and on having a voice in the drafting of any legislation affecting the public policy with regard to hospitals.

At present a hospital conference is sitting in Sydney, composed of delegates from the lay boards of all the important hospitals in the State. No medical representation is to be found at this conference and only a few of the delegates present are trained hospital executives. The latter are

hopelessly outnumbered and this is the conference that is criticizing the new Hospital Bill and largely guiding the Minister for Health in the reconstruction of this important piece of legislation. Already the rejection of a most valuable provision—a trained Hospital Commission—has been recommended by this lay conference. Other valuable clauses are sure to be thrown overboard in the *melée* and the mutilated bill will be either recast or relegated to the limbo of lost things, unless sounder advice from men with a practical knowledge of hospital affairs is afforded the Minister.

It is not suggested that the Hospital Bill is an ideal measure, but it presages the dawn of better days for the hospitals and the better organization of the various services. With a Hospital Commission established, one would no longer see hospitals springing up haphazard all over the State at the whim of the small town booster to lapse subsequently into financial difficulties and fail to function properly. Major surgical, pathological and X ray services could be coordinated to a greater degree than at present and great economies could be effected by standardized buying of equipment. The relation of the medical staffs to the hospital could also be improved upon if the New South Wales Branch of the British Medical Association were to take a firm stand with regard to the following points:

1. A suitable arrangement providing for the allotment to the medical boards of the hospitals of a proportion of the fees collected for workers' compensation cases.
2. The prevention of hospital abuse (a) by persons able to pay private fees or (b) through the medium of industrial contribution schemes.

Our Branch is already watching the interests of its members with regard to payments to the hospitals on behalf of workers' compensation cases and I believe that a basis of mutual understanding between the medical and lay boards of the large public hospitals will shortly be arrived at on the matter.

Hospital abuse by the individual is just as prevalent in New South Wales as elsewhere and can be prevented only by an efficient inquiry bureau at each hospital. Abuse of public hospital privileges under industrial contribution schemes, however, is very liable to eventuate unless their administration is carefully planned.

Our experience on the northern coalfields of New South Wales, where upwards of half a dozen hospitals are supported mainly by industrial contribution funds, is that these hospitals are regarded by the contributing employees and employers as analogous to friendly society dispensaries, where each man contributing threepence per week is entitled to free treatment for himself and his family. No matter who the workman may be, manager or labourer, director or office boy, he is entitled to free treatment in the district hospital by virtue of his threepence per week contribution.

Although the larger hospitals have a regulation stating that the weekly contributions do not entitle

the contributors to free treatment in the out-patient departments, the rule is freely abused and any attempted tightening up of the regulation is usually accompanied by vociferous protests from employer and employee alike. It thus behoves medical men connected with hospitals which are contemplating the introduction of an industrial contribution fund, to assure themselves that their honorary services will not be exploited and that the fund will be administered in such a way as to achieve its humane objects, namely the adequate financing of the hospital and the provision therein of cheap and efficient medical attention for the sick poor.

This brief review of the hospital position in the State is in no way intended to cover fully every aspect of the question, but rather to direct attention to a few outstanding points in the State's hospital problem and to endeavour to stimulate members of the British Medical Association to look after their interests in connexion with the public hospitals to which they are giving a large portion of their valuable time. Should this be effected, I shall feel that my paper has achieved its purpose.

#### THE TREATMENT OF HICCUP OCCURRING DURING ANÆSTHESIA.

By S. J. CANTOR, M.B., B.S. (Melbourne),  
Melbourne.

THE occurrence of hiccup during anæsthesia may be a phenomenon of trifling importance; on the other hand it may be an inconvenience to the surgeon and a source of worry to the anæsthetist.

Hiccup during the course of an operation may be due to causes in the abdomen or to some action of the anæsthetic. In the former case it may be one of the results of an acutely inflamed abdomen.

It has been found that some cases of hiccup are not associated with a tendency to vomiting and the administration of the anæsthetic either in increased dosage or in diminished dosage or even withdrawal of the anæsthetic does not cure or relieve the hiccup. The action of firmly holding the nose and the application of pressure to various parts of the face alike fail to check the trouble. It is, however, immediately arrested by forcibly flexing the head on the chest for a couple of seconds. Relapse is uncommon and is cured in the same way.

This method of arresting hiccup is dramatic in its action; it does not interfere with the surgical operation. It is particularly valuable in abdominal and other operations. It is safe.

I have never seen or heard of any reference to this method which historically may be considered a development of the method of stopping hiccup by sipping water from the far edge of a tumbler.

The method of stopping vomiting during anæsthesia by holding the nose was described by me in this journal ten years ago.

## Reports of Cases.

### CHORION EPITHELIOMA.<sup>1</sup>

By CONSTANCE E. D'ARCY, M.B., Ch.M. (Sydney),  
Honorary Surgeon, Royal Hospital for Women, Paddington,  
Sydney; Honorary Gynaecologist, Saint Vincent's  
Hospital, Sydney; Lecturer in Clinical  
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Sydney.

EDNA ROBERTSON, aged twenty-eight years, is a married woman with one child, aged five years. This child was born by instrumental delivery. The mother had no miscarriages and no still-born children. She became pregnant about August 1, 1926. About thirty days later she began to notice bleeding *per vaginam*. At first there were slight daily hæmorrhages, but later she had extensive hæmorrhages. She was admitted to another hospital and treated for threatened miscarriage and was allowed to return home. On January 18, 1927, she passed a large vesicular mole, there was no fetus, but profound hæmorrhage. She was seen in her own home by Dr. F. D. Langton and he curetted her uterus on the following day. She remained in bed for fourteen days. I saw her one week later in consultation with Dr. Langton. She was then suffering from severe pain in the chest, which had come on suddenly with breathlessness. We diagnosed these symptoms as due to small emboli, resulting from the slow circulation caused by the loss of blood. Her uterus seemed moderately well involuted. There was no bleeding and no discharge was present.

In each lateral fornix there was a large cystic tumour and we diagnosed these as lutein cysts of the ovary, a common sequela of vesicular mole. Each cyst was as large at this stage as a fetal head at term. Dr. Langton was able to say definitely that they had not been present three weeks previously. It was decided to wait until all chest symptoms had subsided before these cysts should be removed.

Accordingly she was admitted to Saint Vincent's Hospital on February 20, 1927, and on February 22, 1927, abdominal section was performed and two large ovarian cysts were removed. It was noted at the operation that the uterus was enlarged and presented all the appearances of a uterus containing an early pregnancy. She remained in hospital three weeks during which time her breasts began to fill with milk and the patient asked without any leading question if she were pregnant, admitting that she had taken a risk of pregnancy between the date of curettage and the date of admission to hospital.

When she left hospital there was no bleeding or discharge and the wound had healed by first intention and her blood condition had greatly improved. On April 4, 1927, she again had a very severe hæmorrhage with many clots. This was followed by a second large hæmorrhage which was accompanied by pain, passing of fluid and a mass which she did not examine. She was readmitted to hospital on April 6, 1927, with a diagnosis of probable chorion epithelioma. She was very pale and had apparently lost a large quantity of blood. Her condition was bad and it was felt that her physical state did not justify the performance of total hysterectomy. Accordingly operation was delayed and means were taken to improve her general health. She had denied to her own medical attendant the possibility of a second pregnancy, but giving us in hospital a greater measure of confidence, she begged me to curette her uterus before removing it, saying that in her own mind she felt convinced she had had a miscarriage at her second hæmorrhage. This hypothesis was further supported by the fact that her bleeding ceased after admission, being followed by an offensive bloodstained discharge and a slight rise in temperature. Her general condition having greatly improved, I agreed to curette the uterus and performed this operation on April 19, 1927. The uterus was about ten centimetres (four inches) long.

<sup>1</sup> Read at a meeting of the New South Wales Branch of the British Medical Association on May 12, 1927.

I removed several pieces of vesicular mole with a sharp curette, these pieces coming exclusively from the left lateral border of the uterus low down towards the cervix. Free bleeding occurred during the operation and I was compelled to pack hastily both the uterus and vagina. The histological report of the scrapings was that they contained decidual and chorionic cells amongst blood cells and fibromyxomatous tissue. Chorionic cells were invading the surrounding tissue and had therefore taken on a malignant function. The condition appeared to be one of chorionic cancer. On April 26, 1927, the patient was again submitted to operation and total hysterectomy was performed. There were no adhesions from the previous section, but the operation was not easy as she is a fat young woman with thick abdominal muscles. Moreover, the pelvic veins were very large with a large plexus in the broad ligament. The tissues too were very fragile. Her severe anaemia increased the anxieties of the anaesthetist, Dr. Spedding, who gave ether by the open method. On examination of the uterus a growth, the size of a walnut or a little larger, was found at the right cornu. It will be recalled that the pieces of mole removed at the second curettage came from the lower left lateral part of the uterus. I believe the sequence of events has been vesicular mole, lutein cysts, early chorionic cancer, a second vesicular mole and a fresh area of early chorion epithelioma (the portion already described in the report). A cut section of the growth under the microscope shows a picture of chorionic cancer. The invasion of the malignant cells has extended into the uterine wall near the endometrial lining. The patient stood the operation well and her abdominal condition has caused no anxiety. On April 28, 1927, she complained of pain in the left shoulder and her temperature was raised to 39.4° C. (103° F.), crepitations were heard at the right base. On May 2, 1927, she was much better. On May 5, 1927, she again had severe pain in the chest, worse on breathing deeply. The attack came on suddenly with profuse sweating and slight cyanosis. Her temperature again went to 39.4° C. (103° F.). On examination of the chest a friction rub was noted at the base of the right lung. A leucocyte count on May 6, 1927, revealed that the leucocytes numbered 16,400 per cubic millimetre, the neutrophils were 60%, the eosinophils 1%, the lymphocytes 37% and the large mononuclear cells 2%. I believe these attacks have been due to small emboli. Realizing the risk of emboli, I did not resort to blood transfusion in the earlier part of her treatment and kept her in the Trendelenburg position for as short a time as possible. A well administered anaesthetic also made it possible for me to operate with only two small pads to hold back the intestines. I think all these points are important in anæmic patients with retarded circulation. It is now generally conceded by most that pleurisy and small patches of pneumonia following operation, especially in the pelvis are due to emboli, rather than as once appeared, to ether. At the time of reporting (May 12, 1927), the patient's general condition has much improved, she has had no pain in the chest for days and her temperature has been normal for four days. A further interesting feature of this case is a family history of hydatidiform mole. Her mother and another member of the family have suffered from the same condition.

I have seen the quick sequence of events in this condition in other patients. I saw one patient after a miscarriage, fetus and placenta were expelled and it was noticed that one small portion of the placenta showed degeneration into vesicular mole. The uterus was curetted by a sharp curette the same day as the miscarriage, yet six weeks later I saw her again suffering from hæmorrhage with a soft uterus and a blue soft growth on the anterior vaginal wall low down over the urethra which proved on histological examination to be secondary metastasis from a chorion epithelioma of the uterus.

The uterus of another was curetted immediately after the passing of the mole, a piece was examined histologically as it looked as if the uterine wall were involved. Malignant changes were found. This patient had her uterus removed forthwith and did well.

A third patient had two lutein cysts six weeks after passing the mole. They contained four and a half litres (one gallon) of fluid between them.

## SUBACUTE BACTERIAL ENDOCARDITIS.

By G. A. KAYE, M.B., B.S. (Melbourne),  
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AND

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### Clinical History.

J.B., married, clerk, aged thirty-three years, a male, was admitted to the Alfred Hospital on October 4, 1926, under the care of Dr. J. P. Major.

The patient had suffered from rheumatic fever twenty-two years ago. He suffered from cough with slight hæmoptysis after work amid dust seven years ago. He has had a cough with yellowish sputum since childhood. His nasal septum was resected eighteen months ago. Six weeks prior to admission he had an attack of "influenza" and since then was always "off colour." He had had a (?) chancre four years previously.

On admission he stated that he had been a healthy man, despite slight cough until six weeks previously. Though he had a known heart lesion since his old rheumatic fever, he had not had any symptoms of cardiac decompensation. At this time he contracted "influenza" and complained of lassitude, chilliness and anorexia necessitating five days in bed. On returning to work, he had a recurrence of the same symptoms five days later. Since then he was always weak and "off colour" and had lost 6.3 kilograms (one stone) in weight. No dyspnoea was present, but he complained of considerable anorexia. Since the "influenza" copious white sputum had been present, but it did not yield *Bacillus tuberculosis* on examination. For two days prior to admission he complained of severe frontal headache and visual failure such that, though short words and individual letters could be appreciated, they could not be framed into sentences. Night sweats had been noted some years previously. They had departed and only returned after the "influenza." He complained of some mild tachycardia.

On examination the patient was found to be rather pale, but not ill-looking. No abnormality was detected in the eyes. Some pyorrhoea was present. The cardiac apex beat was diffuse and visible in the fifth intercostal space 12.5 centimetres (five inches) from the middle line. No right cardiac dullness nor aortic dullness was found. On auscultation a loud aortic diastolic murmur was heard with an Austin Flint murmur at the mitral area. The rhythm was regular. The chest was phthisical in type. Good movement and air entry were present. The only abnormalities were general prolongation of expiration and a few scattered crepitations, especially on the right side. The liver was enlarged two fingers' breadth below the costal margin. The spleen and kidneys were not palpable. The central nervous system was normal. No petechiae were seen in the skin. The temperature was 38.3° C. (101° F.), the pulse rate 112 and the respiratory rate 28 in the minute.

The sputum was repeatedly found free of *Bacillus tuberculosis*. On X ray examination moderate generalized bronchiectasis was found, but no other abnormality was detected. The serum did not react to the Wassermann test. No abnormality was detected in the urinary tract. The vision in either eye was  $\frac{5}{60}$ , the lesion therefore lying between the occipital visual centre and the "reading centre."

The patient meanwhile continued to have an obstinate evening temperature of 37.8° C. (100° F.), returning to normal in the morning. The pulse also was consistently rapid, varying between 96 and 108 per minute. On the sixth day there was a small hæmoptysis so that all suspicion of tuberculosis was not excluded until October 12, 1926, eight days after admission. At this time the leucocyte count was 18,000, but there were no evidences of anaemia. On October 14, 1926, the presence of subacute infective endocarditis was strongly suspected in view of the constant pyrexia and tachycardia and despite the absence of splenomegaly, petechiae, focal embolism or



other textbook signs. In this connexion the old aortic valvulitis had to be regarded with much gravity. A blood culture was taken and returned a growth of short chained streptococci after four days' incubation. Culture of one of the pyorrhoeal teeth which had been extracted, returned a growth of *Streptococcus viridans*. The diagnosis of infective endocarditis was thus well sustained and treatment instituted accordingly.

On October 26, 1926, intravenous mercurochrome therapy was instituted, the temperature returning to normal after the fourth daily injection. Improvement was sustained until November 2, 1926, when evening pyrexia returned. A blood culture, taken on November 10, 1926, again yielded streptococci, despite resumption of mercurochrome treatment in increased doses.

On November 15, 1926, a course of vaccine, prepared from the blood culture, was initiated with no appreciable effect. The patient now felt well, but the evening temperature reached regularly 38.3° C. (101° F.), whilst the morning remissions were slighter.

A donor being immunized with large doses of the patient's vaccine, on December 14, 1926, three hundred cubic centimetres of immunized blood were transfused, the only result being to raise the evening pyrexia.

On December 30, 1926, "Acriflavine" was given by intravenous injection every day for four days with no improvement. The temperature was now definitely "swinging" in character, although the patient had no complaints and appeared far from any catastrophic termination.

Plans for a second transfusion were delayed in execution owing to the unavoidable absence from Melbourne of the prospective donor. Meanwhile the "Acriflavine" therapy was continued without result.

At 2 a.m. of January 11, 1927, it was reported that the patient had had a "fit." On examination he was semi-conscious and complained of violent right temporal headache and manifested the signs of a left hemiplegia. Death occurred at 6.45 a.m.

#### Post Mortem Findings.

Mural and valvular aortic endocarditis were present. The spleen was enlarged with infarction of half its substance. Infarcts were present in lungs, kidneys and liver. The cause of death was a large hamorrhage into the right lateral ventricle, presumably following on infective thrombosis, though the latter could not be demonstrated.

#### Conclusions.

The case is considered to be of interest from the following points of view:

1. The etiological factors probably provided by old-standing valvulitis in the presence of recent dental sepsis.
2. The necessity of suspecting subacute bacterial endocarditis in any pyrexia of obscure origin.
3. The early diagnosis by blood culture before the presence of textbook signs.
4. The unsatisfactory result of certain modern methods of treatment.

#### Acknowledgment.

This case is reported with the permission of Dr. J. P. Major, Honorary Physician to In-Patients in this hospital.

#### PSEUDO-HERMAPHRODITISM OCCURRING IN TWO CHILDREN OF THE ONE FAMILY.

By WOLFE DAVIS, M.B., B.S. (Melbourne).

Resident Medical Officer, Homœopathic Hospital, Melbourne.

Cases of pseudo-hermaphroditism are reported from time to time, but the occurrence of two such abnormal beings in the one family is extremely rare and is well worth placing on record.

M.T., aged nine, apparently female, was admitted to the Homœopathic Hospital suffering from a condition which was diagnosed as a double irreducible inguinal hernia.

An operation was performed and glands were found in the inguinal canals which were macroscopically testicles, each with an epididymis and a vas deferens.

Sections of these were examined microscopically and were shown to consist of testicular tissue corresponding in development to that of a boy of nine years of age.

A clinical examination of the child showed the external genitals to be of the female type in appearance, having rather full *labia majora*, well developed *labia minora* and a normal sized clitoris, vestibule and fourchet, with a vagina about 1.25 centimetres (half an inch) in length. On going further into the family history we were told that the child's "sister," now aged five years, was also a proved pseudo-hermaphrodite. This younger child had been operated on some eighteen months previously at the Alfred Hospital for a supposed double irreducible inguinal hernia and glands of the male type were found in the inguinal canals.

Sections of these glands were examined microscopically and proved to be of the male type.

A clinical examination of this child revealed that her external genitals were exactly of the same formation as those of her elder "sister," described above. I am informed that this child was exhibited at clinical meetings at both the Alfred and Children's Hospitals, Melbourne, and the opinion was expressed that the glands should be removed, while the question of an ovarian graft was also discussed. Both children having been brought up as girls, are in general appearance like any other girl of the same age as themselves. According to "Choyce" there is no proved instance of a true hermaphrodite surviving birth, while he doubts the condition ever having occurred, even in prenatal monsters. The question, nevertheless, now arises as to whether these children have any ovarian tissue, although the possibilities of such is extremely unlikely.

## Reviews.

### A GUIDE TO HISTORY-TAKING.

"MEDICAL Case-Taking," a handy little volume, is described by the author, Dr. Alex. Mills Kennedy as "a guide for clinical clerks." It fulfils its purpose admirably. There are certainly more complete publications which deal with clinical methods, but this book subserves a definite purpose. Too often the student in the wards of a teaching hospital is apt to imitate the case histories and investigations of more mature observers who merely record the abnormal findings. Unless the student makes complete records, his examination of the patient tends to be incomplete and he will note only the prominent abnormalities. The author's wide experience enables him to make a wise selection of those vital observations that must be noted and recorded, if the student is to develop into a sound clinician. No clinical clerk could fail to benefit by reading this book in conjunction with larger works.

### AMOEBIIC ABSCESS OF THE LIVER.

UNDER the title "Les Hépatites Dysentériques et leur Traitement," there has been published a valuable book, setting out the result of years of work and observations carried out at the Greek Hospital, Alexandria.<sup>1</sup>

Though amoebic dysentery is so far a comparatively uncommon disease in Australia, yet its existence here must be recognized, as witness the interesting report in a recent number of this journal of two cases of amoebic dysentery from the Townsville Institute of Tropical Medicine. Very occasionally, also, there occur in Australia cases of chronic abscess of the liver typical of amoebic infection.

This book is divided into two parts, the first part, written by the late Dr. Valassopoulos, deals with the pathology, diagnosis and treatment of the initial localized hepatitis or amoebic infarcts of the liver and of the early or acute

<sup>1</sup> "Medical Case-Taking: A Guide for Clinical Clerks," by Alex. Mills Kennedy, M.D. (Glasgow); 1926. London: Edward Arnold and Company. Crown 8vo, pp. 148. Price: 5s. net.

<sup>2</sup> "Les Hépatites Dysentériques et leur Traitement," par A. Valassopoulos et Pavlos Péridis; Préface du Dr. E. Rist; 1924. Paris: Masson et Cie. Demy 8vo, pp. x + 727.



abscess of the liver. The second part, written by Dr. P. Pétridis, deals with the surgical procedure required to explore efficiently and safely and to drain an abscess of the liver. The operation now adopted in Alexandria was first devised by the late Dr. A. Pétridis and consists of resection of many ribs and incision of the diaphragm ("polypneuro-diaphragmatotomy"). It is advised to resect widely the seventh, eighth, ninth and often the tenth ribs on the right side, so as to give free access to a large area of the liver through a long incision of the diaphragm.

Admirable illustrations are given of the steps in this surgical procedure.

The account of the medical and surgical diagnosis of liver abscess, as given in this book, would prove of great practical value in the problem so commonly encountered in Australia of the accurate diagnosis of a suppurating hydatid cyst of the liver.

It is a special pleasure to welcome this work from the celebrated Greek Hospital at Alexandria.

#### A SUMMARY OF MEDICINE.

In the month of September, 1924, a very full review of the seventh edition of Dr. W. R. Jack's "Handbook of Medicine" was given in this journal. The fact that after an interval of little over two years a new edition is called for is evidence in itself of the great demand for the book.<sup>1</sup> It is obviously supplying a want in the scholastic life of the medical student.

We have really nothing new to say in reference to this new edition. It is really a reprint, as the author almost admits in his short preface. He states that no new articles have been added, but that every part of the work has been carefully revised with the great object of keeping it as much up to date as possible and for this reason some new illustrations have been added.

We regret that the author still retains and disfigures a well written article on pulmonary tuberculosis with such obsolete terms as chronic phthisis, pneumonic phthisis, bronchopneumonic phthisis. This was noted in our review of the seventh edition and here it may be remarked that pulmonary tuberculosis is now rightly looked on as a local manifestation of a general infection and is not described in textbooks of repute such as "Osler" and others as being a separate disease. Apart from those remarks this short notice may be concluded by repeating what we said in September, 1924: "In conclusion it would be unfair to look on this well written little work as a 'cram' book. It is a carefully prepared and full résumé of one of the most important subjects of the whole curriculum and cannot fail to be of the greatest use to the conscientious student who has followed the teaching of his clinical lecturers."

#### LESSONS ON DIET.

"A MANUAL in Preliminary Dietetics," written by Miss Maude A. Perry, Director of Dietetics in the Montreal General Hospital, has been published.<sup>2</sup>

This little work is compiled from lessons and lectures given by Miss Perry in her capacity as instructor to nurses in their junior course. The course consists of fifteen lessons, each lesson follows the plan of combining theory, demonstration and practical laboratory work, in this way effusing scientific interest all through the course of lectures. Feeding the sick and food principles are simply and attractively discussed in Lessons I and II. These are followed up by the consideration of milk, eggs, carbohydrates and meats. The best chapters in the book are those devoted to special diets for infants and children and Lesson XIV contains a short and readable account of food values and their measurement.

It is on the whole a very estimable little book and contains more useful information within its covers than

is usually found in manuals of this type. It is just the stamp of book that could be used with profit by the pupils in girls' high schools.

#### A BOOK ON HERNIA.

THE monograph by E. M. Cowell, Hunterian Professor, Royal College of Surgeons of England, on "Hernia and Hernioplasty" affords an example of the conservative spirit which prevails among British surgeons.<sup>1</sup> Although he mentions investigations that favour the congenital theory of hernial sacs and quotes admissions by obstinate opponents such as Jonathan Hutchison and Sir Arthur Keith, he does not admit that all abdominal hernias, apart from those due to trauma or operation, should come under that category.

In Australia as the result of the work of Mr. Hamilton Russell the existence of a congenital sac is now universally accepted. Upon the establishment of this principle depends the nature of the operation and the elaborate description of various ingenious plastic operations serves no useful purpose.

The chapters dealing with the history, nomenclature and particularly the anatomy of hernia, are of interest and the volume is profusely illustrated. The pictures of the different varieties of hernia are especially good. The figures given referring to the complications and recurrence after operation are stultified by the fact that the majority of operations are done by surgeons who deem it necessary to effect repair of the muscular planes. In particular the operation recommended by the author on femoral hernia necessitating interference with the upper opening of the crural canal, is fraught with unnecessary risk.

The book is of handy size, is well printed and illustrated and apart from the chapters on treatment is well worth perusal.

#### HYGIENE.

In the preface to his textbook "Elementary Hygiene for Nurses" Dr. H. C. Rutherford Darling lays down a fundamental principle when he says: "Since an ounce of prevention is worth a pound of cure, it follows that every nurse should have a working knowledge of the general principles constituting public and personal hygiene." That this work fills a need in the nurses' literature is evident by the fact that it has now reached its third edition. The book comprises eight chapters together with an appendix.

In the first chapter the author deals with ventilation, warmth, light, dust and humidity.

Leonard Hill's experimental work on the influence of air stagnation in producing the personal discomfort felt in an overcrowded room receives attention and the lesson for the nurse to remember is that in the production of a healthful atmosphere three things are necessary, a temperature of about 60° F., continual gentle movement of air and a relative humidity not exceeding 75%.

The simple test for vitiated air, namely the sense of smell after being in the open air for at least ten minutes, is mentioned as being keen enough for practical purposes to detect the feeling of stuffiness that suggests the necessity for opening the windows of the sick room.

In the discussion on ventilation the natural forces are described and the methods of their application well illustrated by diagrams reproduced from standard works of reference. Under the heading of artificial ventilation a description of the "Plenum" and extraction systems is given; under the latter system the action of the ordinary chimney, McKinnel's ventilator and Boyle's outlet valve are described.

<sup>1</sup> "Hernia and Hernioplasty," by Ernest M. Cowell, D.S.O., M.D., B.S. (Lond.), F.R.C.S. (England), with an Introduction by Sir Arthur Keith, F.R.C.S., F.R.S.; 1927. London: H. K. Lewis and Company, Limited. Demy 8vo., pp. 144, with illustrations. Price: 9s. net.

<sup>2</sup> "Elementary Hygiene for Nurses: A Handbook for Nurses and Others," by H. C. Rutherford Darling, M.D., M.S. (London), F.R.C.S. (England), F.R.F.P.S. (Glasgow); Third Edition; 1926. London: J. and A. Churchill; Crown 8vo., pp. 261, with illustrations. Price: 5s. net.

<sup>1</sup> "Wheeler's Handbook of Medicine," by William R. Jack, B.Sc., M.D., F.R.F.P.S.G.; Eighth Edition; 1927. Edinburgh: E. and S. Livingstone. Crown 8vo., pp. 645, with illustrations. Price: 12s. 6d. net.

<sup>2</sup> "A Manual in Preliminary Dietetics," by Maude A. Perry, B.Sc.; 1926. St. Louis: The C. V. Mosby Company. Melbourne: Stirling and Company. Crown 8vo., pp. 146. Price: \$1.25 net.

In connexion with warmth particular attention is given to the points of advantage of the modern grate of the type of Galton's or the Teale grate over the older fashioned ones. The construction and furnishing of rooms are recognized as playing a considerable part in the efficiency with which household cleansing can be carried out. The author favours the use of mats in preference to carpets owing to their easy removal for cleansing.

Reference is made to the value of moisture in sweeping and dusting a room; dry dusting is described as a farce. As is natural in an up-to-date textbook the use of vacuum machines receives commendation.

In Chapter II dealing with food the usual division into proteins, hydrocarbons, carbohydrates, salts and water is followed. Dr. Darling concludes by summing up the necessity for food as: (i) to supply material for building up the body, (ii) to repair the body, (iii) to produce energy for physical or mental work.

In discussing fuel value he draws attention to the fact that the amount of energy set free when food is burnt inside the body, is not as high as when it is burnt outside the body in a calorimeter, partly because cellulose is not burnt up in the body and partly because proteins are not completely oxidized, a certain proportion of their carbon being excreted as urea.

Food must contain the five different kinds of foodstuffs mentioned above in order to maintain perfect health.

In commenting on the necessity not only for food values but for digestibility, the following apt remark is found: "A dinner at the Ritz Hotel at 21s. per head is one thing, but far better food values may be obtained at the 'A.B.C.' at 2s. per head or for less than that amount at home."

Speaking on the value of fats, the author remarks that their special value in nutrition may depend upon the Vitamin A associated with them, for recent experiments appear to indicate that fat, as such, may be omitted from the diet if Vitamin A be supplied in a specially prepared, fat-free form. Discussing vitamins further, it is pointed out that it is not enough to know that a particular vitamin is present in a diet; there must be sufficient of it. The author suggests that it is convenient to think of the three vitamins as (i) cod liver oil, (ii) the germ of cereals, (iii) lemon juice. These are three very different foodstuffs and the vitamins which they contain are just as different.

An excellent illustration of the result of a diet containing all the essential dietary factors is seen in the pictures of two rats, one of which has been given an ample supply of water-soluble B vitamin, whereas the other was allowed only a subminimal amount. The difference in development is very evident. The influence of sunlight on metabolism is recognized and the interchangeability within limits of photo-synthesis and fat-soluble A vitamin in the prevention and cure of rickets remarked upon.

Hygienic methods of the collection, transit and storage of milk are said to be urgently needed and are indicated. In a book intended primarily for nurses, however, more stress might have been laid on the all-important principle that human milk is the proper diet for infants. This subject is dismissed in one line and qualified by the statement that children should not be allowed to have the mother's milk when the latter is suffering from wasting diseases such as tuberculosis.

In the chapter on water the author follows the lines of ordinarily accepted knowledge and deals among other things with sources, character of water from various sources and storage. In discussing the characteristics of good water, colour, clearness, taste and smell are considered and in addition bacteriological, chemical and microscopical tests are detailed.

The section dealing with purification of water on a public scale is hardly complete without reference to mechanical filtration and large scale chlorination, both of which are in use in England today.

The sanitation of buildings and the subject of drainage are dealt with along standard lines, fully enough to meet the needs of the student of public health. The various methods described for the removal of sewage, include mention of three types of chemical closet.

The author recommends removal of household refuse at least three times a week. This as an ideal is sound; the

health departments in Australia apparently are unable to insist on its adoption.

The detailed method of sanitary inspection of a dwelling will well repay the careful attention of the reader, while the particulars of the requirements of a temporary hospital cover all the essential points which need attention when such buildings are under construction.

Though it is stated that before discharge from hospital a patient suffering from diphtheria should be found free from diphtheria bacilli on three examinations, the importance of taking nasal swabs might also have received mention. The author is an advocate of inoculation with a mixed vaccine as a prophylactic measure against influenza. He recognizes the necessity for the prevention of the drying of sputum in patients suffering from open tuberculosis and regards this as the all-important question in prevention of the spread of the disease.

Under the heading of plague prevention he recommends that the patient should be sent to an isolation hospital, where he would occupy a screened room, free from all vermin. Isolation is also regarded as necessary in the case of persons living in an infected house. Inasmuch as plague is primarily a disease of rats, the necessity for isolation of human patients might easily have received less attention, whereas greater stress could have been laid upon the necessity for an intensive rat destruction campaign in any area where plague is present. The author mentions the value of Haffkine's vaccine, which he states will necessarily be adopted in any area where the disease is epidemic. It would almost seem as if he has lost sight of the fact that human plague is really a secondary factor in the spread of the disease.

The author is apparently an optimist if he really believes that "it is not difficult to rid a house of bugs by fumigation either with sulphur or hydrocyanic acid."

In the discussion on the life history of *Ascaris lumbricoides* no mention is made of an intermediate host which the researches of F. H. Stewart seem to prove.

In the prophylaxis against trichinosis more emphasis might have been laid on the necessity for keeping down rat infestation of pig pens, for the rat is in reality the primary host of the *Trichinella*.

Attention is devoted in the chapter on personal hygiene to the varieties of clothing and its influence generally on heat regulation. The author is insistent on not taking either a warm or cold bath within two hours of a meal.

Referring to mastication the author states that the proverbial thirty-two bites for every mouthful should never be forgotten. In these days of hurry it is probable that this proverb must, of necessity, be forgotten. The important duty of keeping hands and finger nails clean receives due attention, such a method of conveying infection being a real danger in the case of many infectious diseases.

In the chapter devoted to health nursing the scope for trained nurses in the domain of baby clinics and as home visitors, tuberculosis visitors and welfare supervisors is well set out. The duties of the public health nurse are laid down as being advisory, educational and preventive, while the importance of keeping complete and careful records is recognized.

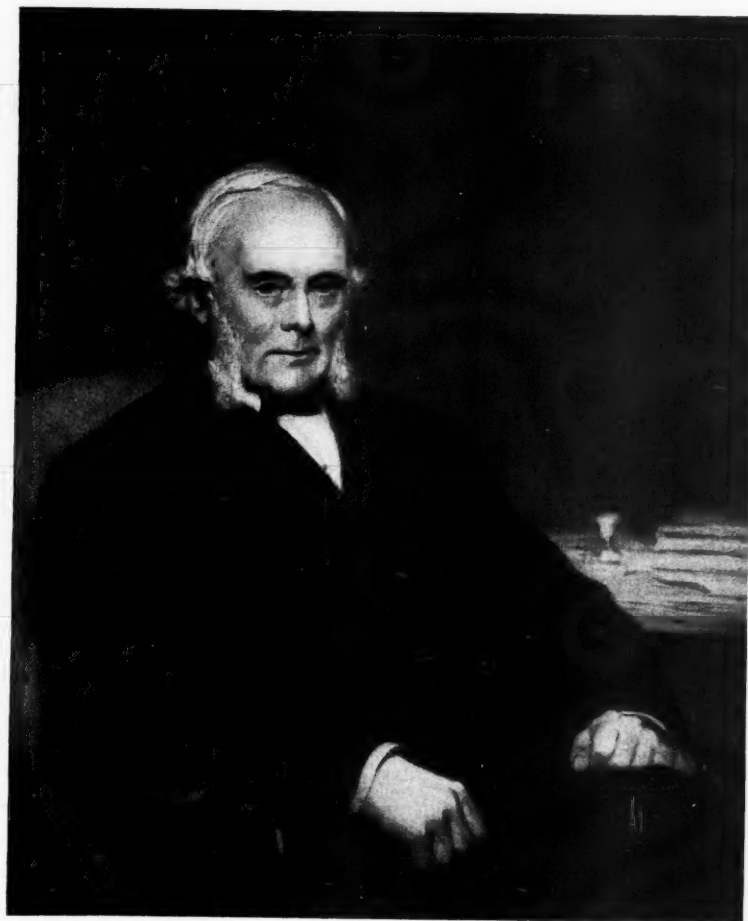
An excellent appendix is found wherein complete information is given in regard to the Imperial and metric systems of weights and measures and the factors for converting one system to the other set out.

The inclusion of the list of notifiable infective diseases in England, Scotland and Wales is supplemented by the list for New South Wales and by a table showing the notifiable diseases for each State in the Commonwealth.

The appendix also contains information in regard to rat poisons and rat trapping and to wood borers and white ants. This portion of the book concludes with information regarding water sterilizing tablets, three different tablets and directions for their use being mentioned.

At the commencement of each chapter the author summarizes the principal headings which are elaborated in the text. This is an excellent scheme which will be much appreciated.

The illustrations are many and excellent and the whole work is one which can be confidently recommended both to the nurse and the student of public health.



LISTER.



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## The Medical Journal of Australia

SATURDAY, JUNE 11, 1927.

### Lister's Greatness.

On April 5, 1927, the world of science celebrated the hundredth anniversary of the birth of Joseph Lister. In this issue we publish an oration delivered by Dr. John Lockhart Gibson before the Queensland Branch of the British Medical Association on that day. We also publish an address by Dr. Charles Ernest Goddard read at a meeting of post-graduates in London early in this year. Both men have dealt with Lister as a man and with the story of his achievement. Dr. Lockhart Gibson refers to the occasion when Lord Lister was in the chair of the British Congress on Tuberculosis and Robert Koch made his dramatic announcement concerning the resistance of calves and other animals to the human form of tubercle bacilli. He was then seventy-four years of age. Two years later he was seriously ill and from that time onward he came into contact with but few members of the medical profession. That was twenty-four years ago. In a few years there will be no one who will be able to remember him, even as an old man. His extraordinary personality, his individual greatness will have to be gathered from the many records; the conditions of hospital and private practice in his early days will have to be imagined without the aid of word pictures from the lips of actual witnesses. It will be as impossible to keep green the memory of the kindest and gentlest of men through successive generations as it has been to preserve a true knowledge of Hippocrates, the father of medicine, or of Harvey, the discoverer of the circulation of the blood. The influence of Lister's life and work will not be dimmed by time, nor will the world become less grateful to him for what he has done for humanity.

While his personal influence is still appreciated, it may be a little difficult to determine the real cause of Lister's greatness. It must be admitted that the same intolerable prevalence of surgical and

obstetric sepsis stirred the breast of Semmelweis before Lister and impelled him to search for and find its cause. Semmelweis failed; Lister succeeded. Semmelweis failed partly because he was unable to adduce convincing proof of the thesis that hospital gangrene, suppuration of wounds and puerperal fever were septic processes caused by pyogenic microorganisms infecting the patient from outside. Lister started like Semmelweis with an *a posteriori* argument, but unlike him he did not rest until he traced the effect to the cause by means of direct experiment. More than that, Semmelweis found that he could not persuade his contemporaries of the truth of his thesis. Lister compelled them to believe. It must further be admitted that Lister had the enormous advantage of the results of Pasteur's work on suppuration and bacteria. Without this fundamental knowledge it would have been impossible to have produced the proof of the doctrine of the bacterial cause of sepsis. Lister's greatness cannot be attributed to any extraordinary genius as a bacteriologist. It will be remembered that in the middle of the seventeenth century Athanasius Kircher found microorganisms in putrefying organic substance and sought for similar organisms in diseased tissues. Antony Van Leeuwenhoek actually demonstrated certain microorganisms in connexion with the specific fevers. From these early beginnings the science of bacteriology and parasitology were to develop, but many years had to elapse before Latour, Schwann, Davaine, Rayer and Bassi took the study a stage further. Pasteur was the first to establish the connexion between yeast growth and fermentation and between microorganisms and silkworm disease. The isolation of bacteria and yeasts in pure culture had not been effected by 1856 when Lister recognized in the work of Pasteur the confirmation of his hypothesis. But while he has not contributed essentially to the foundation of bacteriology, his fertile imagination, his analytical mind and his determination to base his doctrine on unassailable ground lifted Lister above his contemporaries and enabled him to found the modern school of medicine and surgery.

If Lister's greatness be traceable to these qualities, it should follow that mankind is indebted to him rather because he sought truth and found it

than because the doctrine he established has resulted in the abolition of those dread septic diseases which transformed hospitals into lethal chambers. That he was one of the greatest benefactors of humanity, if not the greatest, cannot be denied. He gave the world safe surgery, safe obstetrics. Before Lister a surgical operation entailed an enormous risk of suffering and death from wound contamination. The modern surgeon has no anxiety concerning the primary healing of the wound he makes. The elimination of this risk has made him bold to attack any and every part of the body and to remove or repair any tissue. Surgical operations are performed by the hundreds nowadays, while they were performed only as desperate remedies in the days of yore. The surgeon, through Lister's great gift, has incurred a grave responsibility. To have recourse to surgical interference without necessity is an unpardonable abuse against this wonderful gift. The daring surgeon must beware lest he misuses Lister's discovery in such a manner that the operative mortality among his patients becomes even greater than the mortality that Lister combated with such signal success. Lister's teaching in theory suffices to abolish puerperal sepsis. The medical profession owes it to the great master to convert theory into practice. But above all Lister's greatness should teach all serious members of the profession of which he was king, that as long as disease and death persist, they should search for truth and not rest until they have found it.

### Current Comment.

#### PAGET'S DISEASE OF THE NIPPLE.

DIVERGENT views are held in regard to the nature and origin of Paget's disease of the nipple. Some observers believe that the skin lesion is not in itself malignant, but that it is of a precancerous nature. Others hold that it appears as a secondary manifestation of a scirrhus cancer on the underlying breast tissue. Ewing states that it is probably to be interpreted as a precancerous affection at first limited to the epidermis and the gland ducts and that it later becomes a true carcinoma. Bland Sutton accepts Handley's conclusion that the thickened eczematous condition of the nipple is not the precursor, but the result of a subjacent cancer commencing near the nipple. Reference was made in these columns in February, 1924, to work by Cheatele on the subject of Paget's disease of the

nipple and some of his findings were discussed in the light of views expressed in this journal in 1923 by Inglis.

A communication on this subject of extreme interest has recently been published by Robert Muir.<sup>1</sup> As will be seen later, his findings are in accord at any rate with some of those of both Cheatele and Inglis and at the same time he draws some conclusions which are new. According to Muir there are two main views as to the causation of Paget's disease of the nipple. The first is that the appearances seen in the surface epithelium are the result of degenerative changes, alone or in combination with non-neoplastic proliferation. The other view is that they are the result of neoplastic change; in other words the Paget cells are tumour cells. In connexion with the latter view there are two possibilities. Either the cells are formed *in situ* from the epidermis by a process of anaplasia or dedifferentiation or they have spread to and invaded the epidermis from elsewhere. In the latter case there are again two possibilities. Either they have spread into the epidermis from the ducts at their orifices or directly from the alveoli of an underlying carcinoma. The real problem thus centres around the Paget cells, the swollen, rounded, clear-staining hydropic cells, single or in small groups, with hyperchromatic nuclei often in mitosis, which are found in the epithelium of the nipple when there is no cancerous infiltration of the lymphatics and tissue spaces of the underlying cutis.

Muir has based his study mainly on five cases and describes his findings under several headings. In the first place changes in the ducts are of primary importance. He points out that the ducts may be the seat of a great variety of morbid changes and in the lesions all stages of transition are encountered from simple papillomatous growths with thick and well-formed stroma to the formation of large dedifferentiated epithelial cells. It is the latter condition which in Muir's opinion is of importance in relation to Paget's disease. It is often spoken of as duct carcinoma. In the ducts the cells are often relatively large and are usually massed together irregularly. In the extreme type of change there is no stroma between the cells and the general appearance as regard both character of cells and their arrangement is that of an encephaloid cancer, but the cells are still contained within the normal boundaries. Muir believes that the change of malignant neoplasia has already occurred in such cells and that they tend to break through the walls of the ducts and invade the tissue spaces. He agrees with Cheatele that the cells within the ducts may sometimes be seen in the process of breaking through. He points out that if the term carcinoma is used in its accepted sense as implying an actual invasion of the tissue spaces and lymphatics, the term "duct carcinoma" becomes misleading. He cannot say that a duct carcinoma will always break through the confines of the ducts and become a carcinoma with ordinary properties. He regards the cells as having undergone the change of malignancy.

<sup>1</sup> The Journal of Pathology and Bacteriology, April, 1927.



nant neoplasia, but as being only potentially malignant in relation to the subsequent events "from the clinical standpoint." He would prefer the use of the term intraduct carcinoma. The growth must be either of a low order of malignancy or else the walls of the ducts or acini have a profound restraining effect upon it. Muir regards the former explanation as being probably more correct. The invasive behaviour of cancer supports this view, as also does the manner in which epithelium, previously healthy, becomes affected by the change. The earliest changes may sometimes be seen in the larger ducts and especially in the lactiferous sinuses or ampullæ of the nipple. It will be remembered that Inglis described the condition as starting in the lactiferous ducts probably near the surface of the nipple. Inglis also holds that extension occurs by continuous spread upwards along the duct walls on to the skin surface and downwards along the walls of the ducts to the acini. The views of Inglis and Muir are not so divergent as would appear. Both regard the disease as starting in the ducts. Inglis regards the condition as Paget's disease from the start and Muir calls the primary growth intraduct carcinoma. This according to him becomes Paget's disease after rupture of the ducts. Muir points out that where the change is commencing the epithelial lining, usually composed of a double layer of cells, is seen to be in process of invasion by the tumour cells which appear to push their way under the superficial layer and then to proliferate. It is remarkable how long this superficial layer may persist. As far as Muir can judge, the cells of an affected duct or ampulla act in a passive manner and do not join in the neoplastic proliferation. The gradual tapering off of the proliferating cells at the margin of the disease is in favour of this view. Although the neoplastic proliferation within the ducts spreads widely by direct continuity and whole duct systems may thus become affected, this does not exclude the possibility that the disease may start at several different places.

The second heading under which Muir discusses these tumours is that of extension to the acini. In some of the acini it may be seen that the invading cells have not completely destroyed the preexisting epithelium, but have invaded it in a manner similar to that described in connexion with the ducts. The change in the acini is a direct extension of the growth in the ducts. Muir states that it is possible that a change similar to that in the ducts may start in the acini, but the evidence is against this. It is probably safe to leave this an open question, for Muir has very few cases from which to draw conclusions.

The changes in the epidermis consist in the invasion of it by cells from the ducts. The difference in appearance in Muir's opinion is due to the greater resistance offered to the invading cells by the cells of the epidermis. Growth is thus more pronounced in the softer and less resistant layers of the *rete* and even there it is of a patchy character, the appearance being as if the balance between growth and no growth was often very little in favour of the former. Obviously the next question to be con-

sidered is the origin of the Paget cells. In Muir's series of five cases there was no cancerous infiltration of the substance of the nipple, hence the Paget cells must either be derived from the cells of the epidermis by a process of anaplasia or must be duct cells which have spread in the substance of the epidermis from the orifices of the ducts. Muir holds the latter view. He believes that the proliferating cells of the ducts, on reaching the junction with the epidermis, spread into its deeper and softer layers. The invading cells may be discontinuous and occur in apparently isolated groups. Schambacher found by serial sections in one case that all the cells in the epidermis were in continuity and that the appearance of isolated groups was due to sections of narrow strands of cells. Muir does not believe that this is always so. It is in his opinion not necessary to postulate the existence of wandering cells in the epidermis, the appearances may be due to cells growing in some parts and dying in others.

With the growth of Paget cells in the epidermis there occur secondary changes in the connective tissue beneath. These consist in vascular reaction attended by an extensive cellular infiltration. The amount of cellular infiltration appears to vary in accordance with the degree of involvement of the epidermis by the disease. The papillæ of the cutis become narrowed and may be reduced to thin strands. In this connexion it is important to consider the direct spread of cancer to the epidermis. As a rule when cancerous infiltration of the cutis is present with subsequent implication of the epidermis, the latter simply becomes thinned and destroyed and a cancerous ulcer results. Muir has seen actual growth of cancer cells within the epidermis and the behaviour of these cells corresponds with that seen in Paget's disease. This fact was also emphasized by Jacobæus in 1905.

\*Such are the main points emphasized by Muir in the account of his work. Paget's disease according to him then is the result of the invasion of the epidermis by tumour cells of the glandular type which reach it from the upper extremities of the lactiferous ducts. The "intraduct carcinoma" may give rise to true Paget's disease or to carcinoma in the connective tissue. This agrees with the statement of Inglis that the changes in the duct result in scirrhus carcinoma. While Inglis apparently applies the term Paget's disease to the process from its inception in the duct, Muir does not do so. By his distinction, however, Muir comes to the inevitable conclusion that both Paget's disease and ordinary carcinoma are possible sequelæ of the same disease—intraduct carcinoma. He thus forms conclusions which coincide with those of Cheate who holds that the agent of irritation producing Paget's disease, is also concerned in producing primary carcinoma in the underlying breast and that this is reached by means of the mammary ducts. While it is certain that the whole story has not been told about Paget's disease and that no definite finality may be reached, Muir has put forward a clear and logical argument, albeit he deals with only five cases; his description certainly fits the clinical facts.

## Abstracts from Current Medical Literature.

### MEDICINE.

#### Early Signs of Disseminated Sclerosis.

A. FISHER (*Canadian Medical Association Journal*, December, 1926) states that disseminated sclerosis is the commonest organic disease of the nervous system met with in general practice and that it is therefore extremely important to distinguish between its symptoms and those due to cerebro-spinal lesions of syphilitic origin. Both diseases appear at about the same period of life and exhibit a multiplicity of lesions characteristic of an organic lesion, with swift changes in the clinical pictures. The same element of confusion is seen in *encephalitis lethargica*. Disseminated sclerosis at the outset often resembles an attack of influenza, but there may be transitory loss of vision, diplopia or urinary incontinence, with momentary loss of power in one of the lower limbs. Patchy loss of sensation also occurs, with occasional attacks of hemiplegia, from which the patient recovers in a short period. Neuralgic pains of root distribution come and go. The following symptoms are of grave import: disturbances of vision, impaired urinary control, giddiness, paresthesia, diminished abdominal reflexes, loss of emotional control and loss of power in the limbs. Paralysis of the sixth nerve and optic neuritis are early signs. Double vision without a venereal history in a young adult, is always suspicious as a symptom of disseminated sclerosis. Multiplicity, periodicity and asymmetry of the signs are cardinal characteristics of disseminated sclerosis. In its early stages the disease is a lesion of the myelin sheath and not of the axis cylinder and some recovery of function is possible and many of the early symptoms, hysterical in nature and due to suggestion, may be amenable to psychotherapy. Whenever the patient is definitely anæmic, subacute combined sclerosis should be excluded by careful examination of the blood. A feature of disseminated sclerosis is its chronicity; periods of improvement alternate with serious relapses; but the duration is rarely longer than six years. Anæmia arises only accidentally during the course of the disease, but in combined sclerosis grave anæmia is common at an early stage, so much so that its presence, especially when of the pernicious type, is of the greatest diagnostic import. The latter disease, also, is almost invariably associated with a flaccid paraplegia in its later stages, but this development is excessively rare in disseminated sclerosis. In combined sclerosis objective derangements of sensation are extremely common, but are rare in disseminated sclerosis. On the contrary, nystagmus, optic atrophy, volitional tremor and speech affections, common in disseminated sclerosis, do not occur in combined sclerosis where the lesions are mostly

confined (according to Byrom Bramwell) to the mid-dorsal region of the cord and affect the posterior columns and the pyramidal and cerebellar tracts. In disseminated sclerosis the lesions are scattered here and there haphazard over the cord.

#### Treatment of Septic Meningitis.

E. METZGER (*Deutsche Medizinische Wochenschrift*, September 3, 1926) gives the histories of two patients who suffered from septic meningitis. Rapid improvement of symptoms and complete recovery within one month occurred after daily lumbar puncture associated with frequent intravenous injections of twenty cubic centimetres of a 10% solution of sodium iodide. No iodine was recovered from the cerebro-spinal fluid. In one case puncture of the *cisterna magna* was performed and Metzger considers that it is preferable to lumbar puncture and gives quicker results.

#### Generalized Purpura of Gonococcal Origin.

CHEVALIER, LEVY-BRUHL, GEORGES and BOURGEOIS (*La Presse Médicale*, January 19, 1927) report the history of a young woman who suffered for more than six months with a widespread purpuric eruption of typical appearance. The patient was in good general health and her temperature throughout the illness remained normal. The blood manifested a moderate anæmia, a slight reduction of the platelets and delayed coagulation time. Apart from slight bleeding from the gums and some menorrhagia, there were no hæmorrhages. The patient had been recently treated for a gonorrhœal vaginitis and seemed to have been cured; nevertheless, blood culture revealed the presence of gonococci in spite of the absence of fever. Injections of antigenococcal serum produced no favourable results. The patient was then lost sight of and resumed her ordinary life. When next seen she was intensely anæmic and still covered with purpuric lesions. She improved after a number of blood transfusions, but was forced to return for treatment for very severe hæmorrhage which followed a miscarriage at a later date. The authors lay stress on the rarity of purpura in gonorrhœa and remark on the strange phenomenon of septicæmia unassociated with fever.

#### Diverticulitis.

L. R. FIFIELD (*The Lancet*, February 5, 1927) discusses diverticulitis. Congenital diverticula are very rare, none being observed in 10,167 consecutive *post mortem* examinations at the London Hospital; whereas acquired diverticula occurred in 218 cases. These are generally multiple, they vary in size between that of a grape and that of a grape seed and are most often found in the pelvic colon. Fæces enter the diverticula and form stereoliths; bacterial invasion results in abscess formation, rupture or chronic localized peritonitis (peridiverticulitis). Adhesions often led to rupture into other

organs. Abscesses, limited by peritoneal adhesions, are common and often clinically diagnosable. Peridiverticulitis is characterized by great thickening of bowel wall, up to 2.5 centimetres (one inch). Contraction of fibrous tissue in the thickened areas leads to stenosis and obstruction of the bowel. Diverticula occur at all ages, the lowest age in this series being twelve years. Males are more frequently affected. Weakness of the bowel wall and increased pressure within the bowel from constipation, gas formation *et cetera* seemed to be the main factors in causation. Acute diverticulitis has been well described as appendicitis in the left iliac fossa. Abscess, general peritonitis, chronic intestinal obstruction, vesico-colic fistula, tumour, fever, leucocytosis and constipation are the most frequent signs. X ray examination is the most helpful diagnostic procedure. The condition is to be distinguished from carcinoma, hyperplastic tuberculosis, actinomycosis, acute appendicitis, syphilis, gynaecological conditions and general peritonitis from other causes. The treatment of acute diverticulitis is surgical, removal or drainage and colostomy being the safest procedures. Prolonged operation is contraindicated as a rule; radical cure can often be safely undertaken some months later. When diverticula are accidentally discovered, causing no physical signs or symptoms, thorough daily evacuation of the bowels by mild aperients, especially liquid paraffin, is indicated. Prognosis depends on the severity of the symptoms; peritonitis and acute intestinal obstruction are especially dangerous; acute diverticulitis and chronic obstruction are more amenable to treatment, in the latter case colostomy and removal of the tumour one year later being the most suitable procedure. A similar course is indicated in the case of vesico-colic fistula.

#### Scarlet Fever.

W. T. BENSON and G. W. SIMPSON (*The Lancet*, February 5, 1927) record observations on the Dick test and active immunization against scarlet fever. The authors prepared the toxic filtrate from a culture of the specific hæmolytic streptococci from the throat of a patient with scarlet fever. This filtrate was diluted to one in one thousand with normal saline solution; 0.2 cubic centimetre of this dilution was injected intracutaneously, a control of 0.2 cubic centimetre of diluted toxin previously boiled for two hours being injected at another situation. An area of erythema appearing within forty-eight hours ten millimetres or more in diameter was regarded as constituting a reaction, a lesser area as no reaction. One hundred and eighty-seven nurses were tested and forty-six yielded a reaction; thirty-five of these one hundred and eighty-seven gave a history of a previous attack of scarlet fever. Of twenty-six nurses who had scarlet fever while at the hospital, twenty-three gave no reaction and three reacted. For the production of active immunization, gradually increasing doses from five to four hundred and sixteen skin test doses

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(0.2 cubic centimetre of a one in one thousand dilution) of toxin were injected into children reacting to the Dick test. Initial doses of two hundred and eight to four hundred and sixteen skin test doses caused a systemic reaction, the larger dose causing a scarlet rash in many cases. Subsequent similar doses (four hundred and sixteen) caused no reaction. Thirty-five susceptible nurses were then given 200, 400, 800 and 1,000 skin test doses of toxin at five day intervals. Twenty of these failed to react within six weeks and thirteen continued to yield a partial reaction. Of the latter seven failed to react four to eight months after a second course of 1,500 to 3,000 skin test doses of toxin, while six continued to react. Seven other nurses received 200, 1,000 and 2,000 skin test doses at fourteen day intervals and five of these failed to react within six weeks of the last dose. Nine nurses were retested eleven months later; five of them yielded a reaction. These five nurses had originally shown a high degree of susceptibility to scarlet fever, as indicated by pronounced reactions to the Dick test. Two nurses not yielding a reaction contracted scarlet fever six weeks and six months respectively after the test. The toxin used in testing these two is said to have been weaker than usual. Six infections of scarlet fever occurred in nurses who reacted to the Dick test and who had not been immunized. No nurse who was successfully immunized, has contracted the disease to date, but three nurses contracted the malady eleven, twenty-seven and sixty days respectively after completing the immunizing course. Though it was too soon to draw conclusions, it was noted that the incidence of scarlet fever among nurses was less during 1926, when immunization was carried out in one-third of the staff, than ever before. The conclusion is reached that the doses of toxin given in this experiment were too small to produce prolonged immunization; larger doses may produce a more lasting immunity as indicated by the Dick test.

#### Bronchiectasis.

L. S. T. BURRELL (*The Practitioner*, September, 1926) discusses the diagnosis and treatment of bronchiectasis. Mistakes in diagnosis arise mainly when hæmoptysis is considered as a sure indication of tuberculosis, whereas it is common in bronchiectasis. Failure to find tubercle bacilli in the sputum after careful examination on three occasions is strong evidence against tuberculosis. Tuberculosis, especially with excavation, is very rare at the base of the lung and pronounced clubbing of the fingers is not seen in tuberculosis. These two signs are characteristic of bronchiectasis. X rays and intratracheal injection of "Lipiodol" are very valuable aids in diagnosis of bronchiectasis. The latter helps to exclude empyema ruptured into a bronchus, putrid bronchitis, gangrene and neoplasm. In treatment foreign body, syphilis, pressure from aneurysm or neoplasm and nasal sinusitis should be sought and treated if present. Iodides may be of use and

emetics are of value in children by helping them to bring up sputum. Creosote in capsules and creosote vapour certainly do good. Intratracheal medication is dangerous. Alteration of posture to facilitate emptying of the cavity is essential and the production and maintenance of artificial pneumothorax brings about a cure in some cases. Pleural adhesions are the main ban to the success of the latter. Section of the phrenic nerve and washing out the cavity with the aid of the bronchoscope have at times given good results. Thoracoplasty on the whole is disappointing. Drainage through a large bronchus gives great relief in some cases; even when the disease is bilateral drainage on the more severely affected side may do good. Pneumolysis which consists in stripping lung and pleura from the chest wall over the diseased area and inserting gauze, wax or fat to keep the lung compressed, has its advocates. Cauterization and removal of the affected lobe are dangerous and difficult procedures.

#### Bronchial Asthma and Tuberculosis.

M. LEWISON AND E. FREILICH (*Illinois Medical Journal*, January, 1927) have adduced evidence to disprove the old-established allegation that bronchial asthma and pulmonary tuberculosis are antagonistic. They consider that the association of the two diseases is very much more common than is generally supposed, as proved by the statistics of various hospitals and dispensaries. A history of asthma in any family should be carefully inquired into when a history of exposure to tuberculosis is obtained. Asthma is an important factor as a source of tuberculous infection and repeated sputum analyses should be made on asthmatic patients. The commonest features presented by asthmatics suffering from tuberculosis are cough, dyspnoea, cyanosis, rapid pulse, loss of weight, pain in the chest, fever, night sweats and hæmoptysis. The elderly asthmatic with chronic bronchitis and emphysema is very frequently tuberculous and should avoid intimate contacts, especially with children.

#### The Differential Diagnosis of Gout.

E. GRAU (*Wiener Medizinische Wochenschrift*, March 12, 1927) discusses the differential diagnosis of gout and allied joint affections. *Osteoarthritis deformans* is associated with crepitus in the affected joints and more or less serous effusion. Later osteophytes develop. It is frequently symmetrical and pathologically is an affection of the bony structures and not the joint capsule. It is seen mainly in women at or past the menopause. Chronic progressive polyarthritis, while mainly affecting the capsule, is also a general systemic infection. It occurs with younger women, commences with fever indicating an infective origin and, while attacking the smaller joints, gradually extends to the others. The heart is normal, muscular atrophy soon appears and limitation of movement

becomes a pronounced feature. Gout, on the other hand, is mainly a masculine affection with a sudden onset in the great toe or thumb. Only gonorrheal arthritis has such a sudden painful onset and the differential diagnosis may be complicated by the urethral discharge seen in many gouty patients. The remission of acute symptoms in a couple of days is characteristic of gout. When more chronic, gout may be mistaken for a chronic polyarthritis. The previous history of attacks, the presence of tophi and the uric acid blood content help to differentiate gout from the more prolonged history of polyarthritis. Radiograms reveal bony atrophy in the latter case, a feature never seen with gout. The author concludes with an appeal for the abolition of the term "rheumatism" and the substitution of a more accurate diagnosis of the real source of the joint pain.

#### Fibrositis.

C. HUNTER (*Canadian Medical Association Journal*, November, 1926) discusses fibrositis, myalgia or chronic muscular rheumatism. Middle aged persons are most often attacked. The ætiology is often obscure, strain, chill, focal infection and general infections, such as influenza, tonsillitis and chronic gonorrhoea, may precede an attack. Klotz has reported degeneration and rupture of muscle fibres, hæmorrhage, lymphocytes and plasma cells with later fibroblasts and resultant scars scattered through muscles in epidemic influenza. Debility and a nervous disposition are also factors. The main symptom is pain referred to muscles or tendinous insertions present on movement; stretching of the muscle and palpation reveal tenderness and hypertonus, often with circumscribed thickenings. In diagnosis all other causes, general and local, must be excluded. Torticollis, pleurodynia and lumbago are the commonest myalgias. Gluteal myalgia is not rare and is often mistaken for sciatica, careful palpation of the relaxed glutei will reveal extreme tenderness or nodules. Myalgia of calf muscles and occipital myalgia with sensitive areas about the muscle attachments may be found. Brachial myalgia affects mainly the deltoid, pectoral and trapezius muscles, which are tender, especially about the insertions; osteoarthritis of the shoulder joint should be carefully excluded, as well as subdeltoid bursitis. Myalgia of the abdominal muscles is more rare, but does occur and may be confused with intra-abdominal conditions. In treatment the mode of life must be corrected, constipation treated, anaemia and lack of exercise attended to; focal infections are to be eradicated. Local massage, at first light and later firm with friction and kneading, is the best treatment and may be continued for weeks if necessary. Local injections of five or ten cubic centimetres of warm normal saline solution repeated every second day or 0.5% "Novocain" in the same quantity may be used. Diathermy, hot springs and psychotherapy play a secondary part.



## British Medical Association News.

### SCIENTIFIC.

A MEETING OF THE QUEENSLAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, Adelaide Street, Brisbane, on April 5, 1927, Dr. H. V. FOXTON, the President, in the chair.

#### Lister.

The Lister oration was delivered by Dr. J. LOCKHART GIBSON, the occasion of the meeting being the celebration of the centenary of the birth of Lister.

After Dr. Gibson's address the President, Dr. H. V. FOXTON, asked Sir David Hardie to move a vote of thanks to Dr. Gibson.

SIR DAVID HARDIE, in moving a vote of thanks to Dr. Gibson, emphasized the importance of the gathering and stated that in his opinion Dr. Gibson had risen to the occasion. He then referred to the opposition against Listerism and Listerian principles and to Lister's strong conviction that he was right. He quoted as a parallel case, that of Sir James Mackenzie's going to London, as Lister did, to convert the London men. He went on to say that he regarded Lister's period as an epoch-making one in the history of medicine and surgery. He looked on Lister as one of the world's greatest benefactors. He considered Dr. Gibson's oration a great tribute to a great man and congratulated him, not only on his having been chosen to give the Listerian oration, but also on the masterly manner in which he had handled such a great theme.

DR. A. JEFFERIS TURNER, in seconding the vote of thanks to Dr. Gibson, felt it a great honour to be called on to second the vote of thanks. Referring to Dr. Gibson's address, he said it was always a great honour and privilege to "praise great men of the past and the fathers who begat us." He regarded Dr. Gibson's address as a real oration and referred to Dr. Gibson himself as a distinguished Edinburgh scholar. He was a link with the past, as he (Dr. Turner) considered himself to be. In those far-off days which he and Dr. Gibson recalled, Lister was not much appreciated by his medical brethren. He then referred to some of the men who followed Lister and who helped to promulgate his famous doctrines. He gave a few of his early recollections of some of the old pioneers of modern surgery and recalled his own personal remembrance of Lister himself and of two or three lectures at which he (Dr. Turner) assisted. He then referred in particular to some of Lister's experiments in asepsis and antiseptics. *A propos* of Lister's qualities and character, he considered that the well known lines of the poet Henley recalled Lister more vividly than even the fine portrait of Lister exhibited to the meeting. He also mentioned the great lack of appreciation of Lister in London; it was quite a time before the great man came into his own. He thought Lister would never be forgotten and considered he bore out his (the speaker's) idea that great men were always much better appreciated from a distance. In Dr. Turner's opinion the existence of small men was only justified in proportion as they appreciated the great men of the world.

The vote of thanks was then carried by acclamation and Dr. J. Lockhart Gibson briefly responded.

A MEETING OF THE EYE, EAR, NOSE AND THROAT SECTION OF THE QUEENSLAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at Dr. Arthur Murphy's consulting rooms, Brisbane, on February 24, 1927, Dr. J. LOCKHART GIBSON in the chair.

#### Interstitial Keratitis.

DR. J. LOCKHART GIBSON showed a girl, aged eighteen years, who had been sent to him on May 18, 1925, with interstitial keratitis in her left eye. He wished to emphasize four points: First, that normal vision was regained, second, that energetic treatment to the constitutional state was most important, third, that when this treatment was thorough, prolonged enough and instituted early enough,

there was likelihood of avoiding an attack in the other eye, fourth, the existence of fine vessels in the cornea running parallel to each other, and in the case under discussion completely crossing the cornea in its vertical diameter and never anastomosing with each other. They were, of course, pathognomonic of a recovery after interstitial keratitis.

When seen on May 18, 1925, the eye had been causing trouble and seeing badly for two weeks. It was deeply injected. The cornea was completely involved in interstitial keratitis and the eye counted fingers at fifteen centimetres (six inches) only. She did not possess Hutchinson's teeth. There was no family history to indicate inherited taint. She was the third of a family of four.

Her other eye had  $\frac{1}{2}$  vision, but would have been capable of seeing  $\frac{1}{2}$  had the left eye not been worrying it. It saw  $\frac{1}{2}$  at the time of demonstration. She had been advised to have mercurial inunction with confinement to bed for the first month and to continue afterwards without confinement to bed.

In a month the patient had been able to count fingers at forty-five centimetres (eighteen inches) and after a further two months vision was  $\frac{3}{4}$ . After inunction for eleven months vision had been  $\frac{1}{2}$  and  $\frac{1}{2}$  partly and her weight had increased by nearly 6.3 kilograms (a stone). At the time of the meeting twenty months after the first visit, the eye saw  $\frac{1}{2}$  partly. It saw  $\frac{1}{2}$  well if the letters were illuminated. A lens of approximately twenty diopters was required to make the fine vessels crossing the cornea visible. The right eye had retained its  $\frac{1}{2}$  of vision and had shown no signs of trouble. Treatment which the patient had stopped for two months, was ordered to be resumed.

Dr. Gibson said that he had had large and exceptional experience of interstitial keratitis when for so many years Honorary Ophthalmologist to the Hospital for Sick Children. While he used only mercury by the mouth and used it very persistently, he expected the second eye to become affected. It generally did. He had for many years used inunction as the only treatment, except for the use of atropine while irritation persisted. His experience had been that when thoroughly and persistently carried out and commenced early enough, the second eye was likely to escape unless it was threatening when the patient first came under treatment. He knew that this attitude was not the usual one, but he believed it to be the correct one and again urged most strongly that it should be adopted. The general health always improved under it and weight increased, in young people often by 6.3 kilograms (a stone) in a year. The patient shown that night had paid only six visits to him in the twenty months.

#### Intraocular Haemorrhage.

DR. W. W. HOARE showed a male patient, aged twenty-two years, who had been under treatment and observation for nearly a year. Loss of sight had commenced in the right eye nearly two years and in the left eye nine months previously. The right eye presented typical appearance of *retinitis proliferans*, the left eye had only a slight fundus reflex due to profuse intraocular haemorrhage, yet vision had remained extraordinarily good, in the right eye  $\frac{1}{2}$  with correction and in the left eye  $\frac{1}{12}$  partly. The cause of the condition was unknown, but the prognosis was bad. Members expressed a wish to see the patient again after the lapse of some months.

#### Injury to Eye by Explosion.

Dr. Hoare's second patient was a male, aged twenty-one years. The left eye had been injured on October 27, 1926, by premature explosion of a detonator from which particles of copper had been driven into the left eye and into the face and neck. One week after injury a small perforation of the iris near the periphery had been seen at about the one o'clock position and there was a corresponding nebula on the cornea. He had not prescribed treatment, but had advised periodic examination. Members concurred in the soundness of this view.

#### Cavernous Angioma of the Larynx.

DR. CULPIN showed a woman, aged forty-nine years, who had been referred to him on August 12, 1925, with dyspnoea

the cause of which proved to be a hemangioma of the larynx. He had operated on her after preliminary tracheotomy, laryngo-fissure was done and a diathermy knife used to excise the tumour which was a cavernous angioma growing from the right pyriform fossa and extending over the right arytenoid into the larynx. The tracheotomy tube had been left in and a further tube placed into the oesophagus and brought out through the nose. In four days the patient had been able to swallow, but laryngeal adhesions necessitated the wearing of either a tracheotomy or laryngeal tube.

#### Association of Dispensing Opticians.

DR. LOCKHART GIBSON read a report from the *British Journal of Ophthalmology*, November, 1926, announcing the formation in London of an Association of Dispensing Opticians pledged not to profess or practise sight testing, but to engage solely in securing to the public under the instructions of a medical man efficient optical dispensing service. The foundation of this Association was considered to be an effective answer to those attempting to secure a royal charter under the plea of improving the status of opticians.

THE ANNUAL GENERAL MEETING OF THE EYE AND EAR SECTION OF THE VICTORIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the Victorian Eye and Ear Hospital, Melbourne, on May 4, 1927.

#### Election of Officers.

The following office bearers were elected for the ensuing year:

*President:* Dr. J. F. Spring.

*Committee:* Dr. Jean Littlejohn, Dr. G. A. D. McArthur and Dr. T. G. Wynne.

*Honorary Treasurer:* Dr. L. Mitchell.

*Honorary Auditor:* Dr. G. Scantlebury.

*Honorary Secretary:* Dr. H. N. M. Puckle.

#### Parinaud's Conjunctivitis.

DR. J. F. SPRING showed a patient who was suffering from Parinaud's conjunctivitis. The patient, a woman, had first been seen on April 12, 1927, when the left eye had been troublesome for five weeks. Numerous swellings with superficial redness were also scattered over the body. On examination the left bulbar conjunctiva had been a little injected. On eversion of the upper lid which drooped, it was found to be thickly covered with numerous large reddish granules; there were also many small ulcers with sloughing surfaces.

There had been considerable constitutional disturbance with some fever, the preauricular gland was much enlarged and the skin over it red. On the arms and legs there were numerous raised, red spots which looked as if about to form abscesses. A considerable part of the skin of the leg was erythematous.

An X ray picture of the nasal sinuses had revealed no abnormality.

The bacteriological examination revealed the presence of *Staphylococcus albus*, Gram-negative cocci and *Bacillus xerosis*; no lepto-thrix was found.

Sections of tissue when examined microscopically, were seen to consist merely of inflammatory tissue.

At the time of the meeting the preauricular gland was smaller and the lesions on the arms and legs were starting to fade. The lid was less injected, the granules less red and the ulcers cleaner.

At no time had there been more than a little congestion to be seen in the bulbar conjunctiva and the trouble was confined to one eye.

#### Retinal Detachment.

DR. A. JOYCE showed a patient suffering from retinal detachment with unusual features and with no apparent cause. The patient was a boy, aged thirteen years. Vision of the right eye was reduced to ability to count fingers at two metres distance.

Vision of the left eye was  $\frac{1}{2}$  with a convex spherical lens. The refraction was estimated for the right as  $\begin{matrix} +8 \\ - \end{matrix}$   $\begin{matrix} +5 \\ - \end{matrix}$   $\begin{matrix} +11 \\ - \end{matrix}$  with an axis of  $90^\circ$  and for the left eye as  $\begin{matrix} +5 \\ - \end{matrix}$   $\begin{matrix} +8 \\ - \end{matrix}$  with an axis of  $90^\circ$ .

The patient stated that he had been able to see out of the right eye two years previously. At that time he had to bandage the left eye for an injury. Six months ago he had again been compelled to bandage the left eye and then noticed he could not see out of the right eye. He stated that he had been hit over the right eye four years ago with a piece of wood.

When Dr. Joyce had first seen the patient four months previously, there were dendritic white streaks extending over the macular area from just outside the disc, the vessels curved over a swelling of about three diopters. The swelling was irregular and not sharply defined and extended further below. There were a few spots of pigment scattered over the swelling and at the lower and inner border, there was a small hæmorrhage, about the size of a pin's head. The spots of pigment had been very refringent when the light was directed on to them, the vessels in the periphery were dark, especially in the lower part and in the lower periphery there was a white band, looking like connective tissue extending downwards and inwards. A red reflex had been present all over the detachment.

Two months later there had been no change in the appearance of the retina, except that there were a few small fresh hæmorrhages. The dendritic white marks suggested folds in the retina. A general red reflex had still been present.

At the time of the meeting the appearance was much the same, except that there were no hæmorrhages, but white spots were present in their place and the retinal detachment in the upper part was paler.

The condition was regarded as inflammatory.

#### Otitis Media and Diplopia.

DR. G. A. D. McARTHUR showed a patient who was suffering from bilateral suppurative otitis media following measles with diplopia due to paresis of the superior oblique muscles.

A MEETING OF THE QUEENSLAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, Adelaide Street, Brisbane, on March 31, 1927, Dr. H. V. FOXTON, the President, in the chair.

#### A Section of Surgery.

At a previous meeting of the Branch a motion had been carried to the effect that it was deemed advisable to form a Section of Surgery, in connexion with the Queensland Branch of the British Medical Association. At this previous meeting also a subcommittee had been appointed, which had drawn up a set of rules for the proposed section.

DR. E. S. JACKSON then formally moved that:

A Section of Surgery be formed in connexion with the Queensland Branch of the British Medical Association.

This was seconded by Dr. E. MEYERS and then put before the meeting for discussion.

DR. A. STEWART stated that he was rather against the idea of decentralization of the interests of the Branch. The formation of a section of surgery, he thought, was getting away from the idea of the Branch and would tend to lead to further decentralization. In his opinion, there were already too many meetings of the Branch.

There being no further discussion, the motion was put to the meeting and carried.

DR. E. S. MEYERS, Honorary Secretary of the Branch, then read the minutes of the previous meeting held in connexion with this matter and explained that the rules drawn up by the subcommittee appointed then were based on the Rules at present obtaining in the Section of Surgery of the New South Wales Branch. He submitted a copy of the proposed rules of the Section to the meeting for discussion and ratification.

The President, Dr. H. V. Foxton, then put each suggested rule to the meeting, each rule being formally proposed and seconded in the usual way. After some discussion and a few small modifications of, and additions to, the proposed rules, the complete set of rules were ratified and carried by the meeting.

#### Election of Office-Bearers.

The following office bearers were elected for the ensuing year.

*Honorary Secretary:* Dr. Milton Geaney.

*Committee:* Dr. A. Meehan, Dr. G. Dixon, Dr. C. Thelander.

#### MEDICO-POLITICAL.

A MEETING OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, 30-34, Elizabeth Street, Sydney, on May 26, 1927, Dr. F. BROWN CRAIG, the Acting President, in the chair.

#### Articles of Association.

Dr. R. H. TODD moved:

That the Regulations contained in the Company's present Articles of Association be and the same are hereby cancelled, and that, in lieu thereof, the Regulations contained in the printed document submitted to this Meeting and for the purpose of identification subscribed by the Chairman thereof be approved and adopted as the Articles of Association of the Company in substitution for and to the exclusion of all the existing Articles thereof.

The motion was seconded by Dr. J. ADAM DICK and carried.

#### NOMINATIONS AND ELECTIONS.

THE undermentioned have been nominated for election as members of the New South Wales Branch of the British Medical Association:

Maltby, Reginald, M.B., Ch.M., 1927 (Univ. Sydney), 33, Redmyre Road, Strathfield.

Rutledge, Edward Hamilton, M.B., 1908 (Univ. Sydney), Prince of Wales Hospital, Randwick.

THE undermentioned has been elected a member of the New South Wales Branch of the British Medical Association:

Greenaway, Thomas Moore, M.B., Ch.M., 1925 (Univ. Sydney), Butler's Road, Hurstville.

THE undermentioned have been elected members of the Victorian Branch of the British Medical Association:

O'Donnell, Michael Francis, M.B., B.S., 1924 (Univ. Melbourne), Essendon.

Thornton, Mary Ethel Josephine, M.B., B.S., 1926 (Univ. Melbourne), Preston.

### Medical Societies.

#### THE MELBOURNE PÆDIATRIC SOCIETY.

THE TWENTY-FIRST ANNUAL MEETING OF THE MELBOURNE PÆDIATRIC SOCIETY was held on March 9, 1927, at the Hotel Windsor, Melbourne, Dr. A. P. DERHAM, the President, in the chair.

#### Annual Report.

Dr. J. W. GRIEVE, the Honorary Secretary, then presented the Annual Report as follows:

During the year 1926 seven meetings were held and the majority were well attended especially by the junior members of the Society. Two most interesting papers were presented, one by Dr. Vera Scantlebury on "Infant Welfare" and the other by Dr. Robert Southby on "Syphilis in Children" and the Society is deeply indebted to these two members.

The conjoint meeting with the Victorian Branch of the British Medical Association, held during the Post-Graduate Course, attracted an excellent attendance and was most successful. Several very interesting and instructive series of cases were presented.

The success of our meetings during the year was due in a large measure to the administration of the Assistant Honorary Secretary (Dr. Hylton) and the Registrar (Dr. G. Raleigh Weigall) and the organization of the conjoint meeting by Dr. Weigall was especially good. During the year Dr. Southby continued his excellent work in reporting the proceedings of the Society to THE MEDICAL JOURNAL OF AUSTRALIA. The Secretaries will be pleased to receive suggestions for future meetings and ask for the whole-hearted cooperation of all members during 1927.

#### Balance Sheet.

The Balance Sheet was submitted by Dr. Alan McCutcheon, the Honorary Treasurer, and adopted.

#### Election of Office-Bearers.

The following office bearers were elected for 1927:

*President:* Dr. W. W. McLaren.

*Honorary Treasurer:* Dr. Alan McCutcheon.

*Honorary Secretary:* Dr. J. W. Grieve.

*Assistant Honorary Secretary:* Dr. Rex Hylton.

*Honorary Auditor:* Dr. McLaren.

*Committee:* Dr. H. Douglas Stephens, Dr. H. B. Graham, Dr. R. M. Downes, Dr. W. G. D. Upjohn.

#### Votes of Thanks.

Votes of thanks to the Hospital Committee and to the Matron and nursing staff for their assistance during the year were then passed.

On the completion of the formal business, the members of the Society entertained Dr. Reginald Webster at dinner.

A MEETING OF THE MELBOURNE PÆDIATRIC SOCIETY was held at the Children's Hospital, Carlton, on April 13, 1927, Dr. W. W. McLAREN, the President, in the chair. The meeting took the form of a series of clinical demonstrations.

#### Rheumatic Heart Disease.

Dr. LIONEL HOOD presented a girl, aged seven years, who had suffered from acute rheumatic carditis and had been in hospital on five occasions in a period of three years. The illness had commenced with fever, joint pains and general malaise and the heart was affected on the first occasion on which the child was admitted to hospital. Under treatment with salicylates the child improved and was discharged apparently well. On the four subsequent occasions she was admitted for severe heart failure.

This patient was shown on account of the following points of interest:

1. The recurrent attacks of cardiac insufficiency (Dr. Hood asked whether each such attack was a reinfection and suggested the possibility of Aschoff bodies as a focus of infection).

2. The large doses of digitalis (1·8 to 2·4 mls or thirty to forty minims of the tincture every four hours) tolerated over long periods without signs of digitalism.

3. The immediate effect of "Novasurol" in relieving the oedema and ascites on the last occasion.

Dr. W. SPALDING LAURIE asked if others had had any experience of extremely large doses of salicylate as advocated by some authorities.

Dr. ROBERT SOUTHBY considered that this patient provided an excellent example of the difficulties of dealing with



children suffering from rheumatic heart disease. Owing to the lack of accommodation in hospital, such children could be kept in the wards only until they were sufficiently recuperated to allow of their being sent to their own homes to rest in bed. What happened then was that as soon as they recovered sufficiently they at once tried to resume their usual activities without the necessary graduated exercises which were so essential at this stage. The result was that they almost invariably returned to hospital with a more serious heart affection than on the previous occasion and so the process was repeated until these unfortunate children either became chronic invalids or died of heart failure in early adult life.

If some provision could be made to accommodate these children in a special ward or institution where their convalescence could be carefully graduated and their activities controlled for at least twelve months after the initial attack, quite a large proportion could be saved and turned into useful citizens instead of invalid pensioners.

Dr. A. P. DERHAM emphasized the importance of continuing the administration of salicylates over a long period.

Dr. H. LAWRENCE STOKES quoted an investigation of a series of patients, suffering from chorea, whom he had recently studied. Some of these children were given a long course of salicylates, while others received no salicylate. An analysis of the records showed that the incidence of rheumatic heart disease was in no way decreased by the use of salicylates.

Dr. W. W. McLAREN said that he agreed with Dr. Southby that if more could be done for these children in the initial attack and their convalescence controlled, it would greatly minimize the number of readmissions for rheumatic heart disease which were constantly seen.

#### Paroxysmal Tachycardia.

Dr. A. P. DERHAM showed a boy, aged fourteen years, suffering from aphonia of at least seven years' duration and tachycardia of unknown duration and discovered on examination for the aphonia.

First seen on February 6, 1927, he was lying in bed looking rather pale and distressed with profuse perspiration, but not complaining of any subjective symptoms. On examination his pulse rate had been over 200 in the minute and apparently regular. This rate had continued for some hours at least, but gave place at intervals later to an irregular rhythm suggesting fibrillation, with a rate varying between 130 and 180. During the regular phase the pulse rate had corresponded to the cardiac rate determined by auscultation, but the irregular phase showed a failure of many contractions to appear in the pulse, the rhythm at times suggesting a series of extra systoles and at others a two to one heart block, when the radial pulse rate was about 80. The apex beat of the heart had been in the sixth interspace ten centimetres (four inches) from the middle line and there was about one and a half fingers' breadth of right cardiac dullness. The heart dullness had extended upwards abnormally at the base and this combined with the aphonia was considered indicative of a possible aneurysm or a mediastinal tumour, although there was no asynchronism or inequality of the radial pulses. There was venous pulsation in the neck.

The patient had been admitted to the Melbourne Hospital under Dr. S. V. Sewell and the above findings were confirmed. Laryngoscopic examination, however, had revealed a papilloma growing from the left vocal cord near the anterior commissure.

Basal metabolism was +0.5% and no reaction was obtained to the Wassermann test.

An electrocardiographic tracing interpreted by Dr. L. Hurley showed in the rapid phase: A normal rhythm with, in Lead 2, a summation of the T and P waves. There was no inversion of any wave, from which fact it was deduced that the point of origin of the extra systoles was close to the sinoauricular node, as the rate was too fast for an ordinary palpitation. X ray examination had revealed an enlarged heart shadow with no abnormality of the aorta.

Tincture of digitalis had been given in doses of one cubic centimetre (fifteen minims) three times a day and later the dose was reduced to 0.6 mil (ten minims). After two doses (probably too soon to be due to the digitalis)

the bursts of tachycardia had stopped and gave place to a more normal rhythm with frequent extra systoles. At most times there was a peculiar systolic bruit heard at the apex. Digitalis administration had been stopped, the area of heart dullness returned to normal and the boy was discharged, only to return to his original state of tachycardia, alternating with (?) auricular fibrillation. In this state he felt no distress beyond a slight palpitation and could do light work and even play games with pleasure.

There was no history of previous rheumatism nor was the family history of importance.

Dr. Derham thought that the condition was one of a defect, possibly congenital, in the nodal and conducting mechanism of the heart, a true paroxysmal tachycardia, alternating with a fibrillation sometimes with a two to one heart block.

He asked for opinions as to diagnosis and whether it was justifiable to limit the boy's activity in the absence of subjective symptoms.

#### Child of Doubtful Sex.

The second patient shown by Dr. Derham was a child, aged three years, of doubtful sex, shown for an expression of opinion as to sex. The child had first come under observation at the age of six months up to which time it had been considered to be a female. The external genitalia had been noticed to be peculiar and examination revealed a rather large clitoris or penis with a gutter-like groove on the lower surface running into an orifice which was apparently the urethra and through which urine was obtained by passing a catheter. The external appearance had been otherwise that of a female, except that there was no sign of a vagina or hymen. Examination *per rectum* did not reveal any uterus or ovaries. After consultation it had been decided that the child was a boy with hypospadias.

It had again been seen at the age of three years and the external genitalia more closely resembled the female type and the child had developed some of the general characteristics of the female form as far as they could be recognized at so early an age. Examination under an anæsthetic had not revealed the presence of any internal genital organs at all. X ray examination of the pelvis revealed a relative length of the transverse axis which Dr. Hewlett considered suggestive of the female. It was realized that the only way to determine the sex with certainty was by microscopical examination of the essential glands obtained by laparotomy. Apart from the diagnosis, advice was asked as to the best way to bring the child up for its own usefulness and happiness.

Dr. R. L. FORSYTH said that he thought the child was probably a boy and in any case should be brought up as a boy, as he could more easily provide for himself without the necessity of marriage which in any case would be disastrous.

Dr. H. FLECKER said that from the history of other similar cases this child was probably a girl.

Dr. ETHEL OSBORNE also expressed the opinion that the child should be brought up as a girl on account of the apparently female characteristics which would make her more fitted for female companions, so long as she was warned not to marry.

The general opinion, however, was that the child was probably a boy and should be brought up as one. As this agreed with Dr. Derham's own opinion, it was decided to leave the name unchanged unless further examination proved female sex.

#### Hypertelorism.

Dr. W. W. McLAREN presented a girl, aged ten years, who displayed the usual features of hypertelorism. He pointed out that the patient showed no indication of defective mentality sometimes associated with this condition.

Dr. W. SPALDING LAURIE said he had seen children with a similar wide separation of the orbits, but he did not regard it as a definite clinical entity.

Dr. A. P. DERHAM quoted an adult as suffering from a similar condition. This patient was mentally deficient also.

**Muscular Dystrophy.**

DR. R. HYLTON, on behalf of Dr. J. W. Grieve, presented two children, brother and sister, aged nine and eleven years respectively, to demonstrate the classical features of pseudohypertrophic muscular dystrophy.

**Congenital Heart Disease.**

DR. H. LAWRENCE STOKES showed a male infant, aged fourteen months, with congenital heart disease. The points of interest in this patient were that he had already survived a severe attack of bronchopneumonia and an acute dysenteric illness, whereas these children were usually prone to succumb to such intercurrent infections.

DR. DOUGLAS GALBRAITH expressed a doubt as to whether the condition was a true congenital heart disease.

DR. REGINALD WEBSTER demonstrated specimens of patent interventricular septum and pulmonary stenosis which he considered were the types of congenital heart most usually encountered in the *post mortem* room.

DR. G. PENNINGTON suggested that the condition was primarily one of polycythemia with secondary cardiac hypertrophy.

DR. W. W. McLAREN considered that the shadow shown by the X ray examination was possibly a slow growing mediastinal tumour as distinct from an enlarged thymus gland.

DR. H. FLECKER recommended X ray therapy for the enlarged thymus.

**Spinal Abnormality.**

DR. ETHEL OSBORNE showed a boy, aged twelve years, with a deformity which was first noticed at the age of two years. The head was small with definite facial asymmetry. The movements of the cervical portion of the spine were limited in all directions. There was some slight convexity of this part of the spine on the right side and the trapezius and other cervical muscles were firm and rigid on that side. At times aching pains had been felt in both arms.

The radiologist had reported a congenital absence of one-half of one of the cervical vertebrae.

DR. OSBORNE raised the question of the presence of a cervical rib on both sides, but it was difficult to distinguish the various cervical vertebrae from one another as they were all so closely crowded together.

DR. MERVYN STEWART regarded the condition as one of hemispondylia or absence of half a vertebra. He also considered that cervical ribs were present.

**Unresolved Pneumonia.**

DR. KATE CAMPBELL presented two children, aged fourteen months and nine years respectively, who had both suffered from recurrent attacks of pneumonia followed by incomplete resolution and bronchiectasis. In each case the condition dated from attack of measles. Several excellent X ray plates were shown to illustrate the chest condition with each of these children.

DR. LIONEL HOOD considered that both children were tuberculous.

DR. D. M. EMBELTON regarded the condition of both as simple delayed resolution without associated bronchiectasis.

DR. H. FLECKER recommended "Lipiodol" to assist in the diagnosis of bronchiectasis.

DR. RUPERT DOWNES commented on the difficulties of intratracheal injection in children. He doubted whether a true bronchiectasis existed in either child.

DR. H. S. LAURIE suggested diathermy as a means of treatment.

DR. H. BOYD GRAHAM considered that a series of diagnostic injections of old tuberculin would indicate any underlying tuberculous condition.

DR. W. W. McLAREN agreed with several previous speakers in the diagnosis of unresolved pneumonia.

**Hirschsprung's Disease.**

DR. T. W. HOGARTH presented a boy, aged two years and four months, suffering from Hirschsprung's disease. This child had had obstinate constipation and considerable abdominal distension since birth. Opaque meal and X ray investigation revealed moderate dilatation of the ascending and transverse portion of the colon, but extreme distension of the sigmoid colon and rectum.

The child had improved considerably under medical treatment, but members were asked for suggestions as to further treatment, surgical or otherwise, which might improve the future prospects of the patient.

DR. D. W. EMBELTON considered the condition was due primarily to achalasia of the anal sphincter.

DR. JEAN MACNAMARA quoted a case recently reported at the Congress in New Zealand by Dr. Wade, of Sydney. This child had improved considerably after the operation of ramisection.

DR. RUPERT DOWNES advised a continuation of the medical treatment.

**THE MEDICAL SCIENCES CLUB OF SOUTH AUSTRALIA.**

A MEETING OF THE MEDICAL SCIENCES CLUB OF SOUTH AUSTRALIA was held at the University of Adelaide on April 1, 1927.

**Nucleic Acid and the Human Organism.**

PROFESSOR T. BRAILSFORD ROBERTSON and DR. C. S. HICKS presented a paper on the "Effects of Ingestion of Animal Nucleic and Plant Nucleic Acid on the Human Organism." Experiments in which the authors had placed themselves on a purine free diet and had consumed respectively sixty grammes of animal and plant nucleic acid, were described. The salient features of the experiment were:

1. A definite increase in creatinin output under the influence of both types of nucleic acid.

2. A distinct difference between the assimilation of plant nucleic and animal nucleic acids, as shown by the greater retention of the purine molecule in the animal nucleic as compared with the plant nucleic acid.

3. No leucocytosis, relative or absolute, was found.

There was evidence of metabolic upset in the case of one of the experimenters. There was no record of an experiment of such an extent having been carried out before and on account of some striking divergences the experiment was being repeated and the results would be reported later.

**Medical Experiences in New Guinea.**

DR. H. C. HOSKING gave an interesting account of medical experiences in the Mandated Territory of New Guinea. The treatment of frambesia by antisyphilitic remedies was described, as well as the distribution of the disease and its possible aetiology, namely, unhygienic conditions leading to the propagation of flies. In one village it was distinctly shown that measures leading to the proper disposal of refuse where otherwise a condition of filth had existed, brought about the clearing up in a great measure of this condition.

Some interesting observations on rapidly spreading tropical phagadema were given.

The absence of cancerous conditions was also mentioned in connexion with the absence of irritative lesions of the kidney and some discussion followed in which some doubt was expressed as to whether the natives were cancer-free, as stated by Dr. Hosking, and also as to whether the absence of irritative conditions in the alimentary and urinary tracts might not have some bearing on the absence of cancer in this race.

**THE MEDICAL DEFENCE ASSOCIATION OF TASMANIA.**

THE ANNUAL MEETING OF THE MEDICAL DEFENCE ASSOCIATION OF TASMANIA was held at the consulting rooms of

Dr. Brettingham Moore, 149, Macquarie Street, Hobart, on February 22, 1927, Dr. T. BUTLER in the chair.

#### Election of Office Bearers.

The following office bearers were elected for the ensuing year:

*President:* Dr. R. J. Scott.

*Honorary Secretary:* Dr. C. N. Atkins.

*Honorary Treasurer:* Dr. E. A. Rogers.

*Members of Council:* Dr. G. Sprott, Dr. A. W. Shugg, Dr. R. Whishaw, Dr. T. H. Goddard, Dr. H. N. Butler.

#### Financial Statement.

The balance sheet for the two years ended December 31, 1926, was read and adopted. It was seen by this that the balance in the Hobart Savings Bank in January, 1925, was £53 19s. 1d. Members' subscriptions had amounted to £13 17s. War loan interest yielded £26 and Hobart Savings Bank interest £17 0s. 7d. War loan bonds amounting to £200 had matured. The total was £310 16s. 8d. In addition to this sum the assets of the Association include war loan bonds amounting to £150.

The Treasurer reminded members that at a special meeting held on July 1, 1925, the annual subscription had been raised to ten shillings and the entrance fee to two guineas.

### Correspondence.

#### THE RED BACKED SPIDER BITE.

SIR: I was interested in the letter from Dr. Miles on the subject of red backed spider bite which appeared in your issue for March 5. Dr. Miles states that he can find no reference to the condition in textbooks and hence I may say that the subject of spider bite is duly, if shortly, considered in such works on tropical medicine as Manson's "Tropical Diseases," Castellani and Chalmers' "Manual" and Stitt's "Practical Bacteriology, Blood Work and Parasitology." More detailed accounts of this form of animal poisoning are given in Calmette's "Venoms, Venomous Animals and Anti-Venomous Serum Therapeutics," in Phisalix's "*Animaux Venimeux et Venins*" and in Kraus's recently published "*10 Jahre Südamerika*." The last named has an illustration of a lesion on the upper arm following spider bite. My main object in writing, however, is to direct attention to the recent papers of Bogen and of Bogen and Berman where amongst other lines of treatment the use of the blood serum of patients convalescent after spider bite is mentioned and advocated. Bogen's paper will be found in the *Archives of Internal Medicine* for November 15, 1926, and that of Bogen and Berman in the *Californian and Western Medicine Journal* for March, 1927. The species of spider with which these papers deal is *Latrodectus mactans*, the commonest of the poisonous spiders of the New World which I myself encountered in Colombia, as recorded in a paper contributed to the *Transactions of the Society of Tropical Medicine and Hygiene*, Volume VIII., 1914-1915.

Yours, etc.,

ALFRED BALFOUR,  
Director, London School of Hygiene  
and Tropical Medicine.

37, Torrington Square, London, W.C.1,  
April 13, 1927.

SIR: Dr. Rodway mentions handling the red backed spider and their failure to bite him. If Dr. Rodway placed the spider under his shirt, I fancy he would be accommodated.

All my cases have been males and were either bitten on the *glans penis*, scrotum or groins or some part of the body covered by the clothes.

I noticed a small black spider about the same size as the red backed variety which only gave a very severe local reaction, the area being infiltrated and raised. I found ichthyol to be efficient as an ointment. No constitutional symptoms ever ensued.

Yours, etc.,

ARTHUR WATKINS.

May 21, 1927.

#### SNAKE BITE.

SIR: Having read Dr. MacInnes's interesting letter on the treatment of snake bite, I am not prepared to accept his conclusions unreservedly, more particularly the statement that the snake must inject the poison subcutaneously. I agree that if the snake can strike at a bare part of the body he will often bite and hang on like a bulldog. Many years ago when doing a little work with the late Colonel Flashman at the University, a man considerably under the influence of alcohol brought into the room a large and savage diamond snake which he offered for sale and which promptly bit him on the palm of the hand and hung on so long that he had to uncoil it from the other forearm and take it by the scruff of the neck before it would let go.

Some years ago two men were exhibiting on a vacant piece of land in the city a tiger snake which was tormented to bite one of them on the forearm, when his companion lightly scarified the bite and applied a lotion which they were selling as a cure for snake bite. The bitten man very soon took ill, exhibited symptoms of snake bite and died. The autopsy showed the usual signs seen in death from a bite by a tiger snake.

This particular snake had had its fangs broken off, and Cleland and Le Soeuf experimenting with it at the Department of Microbiology, showed that when it bit an animal the usual fang marks were not present, but if some of the venom thrown onto the skin of that animal was put on to a second animal and scarified, the second animal promptly died. It was assumed that this was the sequence of events in the man who died. All of which goes to show, I think, that death may follow where the venom is injected into the skin as well as subcutaneously, especially in the case of a venom of this nature which authorities tell us is several times more powerful than that of the cobra. After all the fangs of an ordinary snake are not very long and the opening is not usually at the tip. I have in front of me now the jaws of a black snake which was five feet long and, roughly measured, the fangs are about one-sixth of an inch in length. Doubtless when the snake can get sufficient hold to enable it to hang on more venom is likely to be expressed.

An untreated bite from a tiger snake which is fatal, is not always rapidly so, as appears to be assumed by Dr. MacInnes. A Chinaman working in his garden was bitten by a small tiger snake in the afternoon—2 p.m. As he killed the snake, he considered treatment to be unnecessary and died next day at 4.10 a.m.

As I have not had any experience of the treatment of snake bite, I content myself with pointing out that the surgeon is not limited to scarification, the whole of the bite may be excised; nor need he use potassium permanganate in crystal form. Even if Dr. MacInnes's explanation of the working of his method is incorrect—I do not say it is—the intermittent releasing of the tourniquet as described by him is surely necessary.

Yours, etc.,

ARTHUR PALMER.

Sydney.

May 29, 1927.

SIR: I was interested to read the letter from Dr. MacInnes in your issue of May 21. It raises the question in my mind as to what is the diagnosis of snake bite or rather inoculation of snake venom. During the last three years I have had occasion to treat three cases of alleged snake bite each of which was stated to be from a tiger snake.



Each was treated in the conventional tourniquet and permanganate method and in none were noted any untoward symptoms, except those probably due to apprehension. The patient's story is generally totally unreliable and I should not care to have to rely solely, as Dr. MacInnes does, on a statement that the snake did or did not adhere to the punctured part for evidence as to whether there had been inoculation of snake venom. Evidently I have yet to see a case of poisoning from snake bite. I was extremely dubious of what had happened in these cases and so unable to diagnose or prognosticate until some period of time had elapsed and no great collapse was present. When called to such a case in the country, one perforce has to give the patient the benefit of the doubt and apply first aid, however doubtful one is as to whether inoculation has taken place or not. One finds that his patient has generally been fitted up with an improvised tourniquet and the apparently affected area scarified in such a desperate and terrified manner that it is impossible to find puncture marks. Hence, whence lies the diagnosis of inoculation of snake venom? If a tourniquet has been efficiently applied, it may be responsible for the absence of any marked collapse in true cases of snake bite. One man had slashed the calf of his leg in such a way as to inflict linear scratches three to four inches in length and in a totally irregular and wild fashion. Terror can play a large part in producing any symptoms of collapse present.

I have released the tourniquet cautiously at intervals of twenty minutes not with the idea of allowing small doses of venom to produce immunity, but in some measure to guard against the possibility of permanent damage to the limb from constriction.

With regard to diagnosis of the serious case and prognosis as to the next twenty-four hours, might I ask Dr. MacInnes whether, in cases when a tourniquet had been applied efficiently immediately after alleged inoculation, absence of sudden collapse on subsequent momentary release would be a sure indication that no subcutaneous injection of snake venom had taken place.

Yours, etc.,

KEITH G. KERR.

Finley, New South Wales,  
May 21, 1927.

SIR: On reading Dr. MacInnes's letter on the treatment of snake bite and his remarks on the futility of scarification and the rubbing in of potassium permanganate in the hope that it will reach the deeper tissues, it occurred to me that it may not be generally known that it is possible to infiltrate the whole area with practically a saturated solution of this salt. Having lived in a very snake-infested place in Africa for five years and in South Gippsland for eight, it has been my lot to have had to deal with a fair number of genuine cases of snake bite.

It was whilst in Africa that Lauder Brunton's work on snake bite and potassium permanganate came out, as up to that time I was convinced that the Kaffir doctor's treatment offered the best hope.

Holding the view that scarifications and rubbing in the potassium permanganate had little hope of getting into the deeper tissues I decided to try the effects of infiltration. The first case I tried it on was a dog. A native commissioner, a friend of mine, brought his dog, a valuable pointer, to me one hour after he had seen it struck by a mamba. The swelling of the dog's head was enormous and there was a large edematous bag hanging between its fore legs. The dog was so ill it could not stand. I started injections round the nose and gradually worked back using probably about half a dozen hypodermic syringefulls. Within half an hour the dog was running round apparently well. For a couple of days it carried round the edematous swelling between its fore legs. This was sufficient to show me that there was no danger of sloughing. On one occasion I had to inject a child's hand of between three and four years old, with no harmful results. Dogs, horses, Kaffirs and whites have all been treated with good results, but I have always been careful to release the ligature for very short periods at a time. Once a ligature has been

applied, with the infiltration method one can have an easy mind in these cases. It has so little reaction that it can be employed in all doubtful cases as well as those that are obvious.

Yours, etc.,

SYDNEY PERN, M.R.C.S., L.R.C.P. (Eng.).

12, Collins Street, Melbourne,  
May 26, 1927.

#### SURGEONS.

SIR: In your editorial of April 30, 1927, under the above caption you state that the chief function of the College of Surgeons of Australasia is to enable the public to distinguish between surgeons and men who undertake operations.

To one who is by no means opposed to the College of Surgeons and who is also interested in the work of the British Medical Association, it seems a fair question to ask how the proposed advertising by the College of Surgeons of Australasia accords with the well known code of ethics in regard to advertising, so long followed out by the British Medical Association?

The officers of the new college should take care lest they arouse the "bitter resentment of opposition" of far more than a handful of men; as if this should come to pass the new college may do more harm than good.

It seems to the writer that the time is ripe for some change in regard to the policy of the British Medical Association in regard to advertising.

The Association might decide under what conditions its members may have the right to assume the title of "specialist." Having gained such right, would there be any reason why a member should not inform the public that he has special qualifications?

If some such action could be taken, many quasi-specialists would in time disappear. A distinctive class of the profession would come into being having a somewhat similar relationship to the rest of the profession as barristers have to solicitors.

If even half of the allegations made by one section of the profession against another are well founded, it is evident that there is need for a thorough cleansing of the Augean stable.

The method of such cleansing ought to be considered by the leaders of the profession in conjunction with the members generally. Only in this way will the public be rendered better service and incidentally each member of the profession may receive desserts according to his worth, be he general practitioner, physician, surgeon or research worker or even the editor of a medical journal.

Yours, etc.,

"G.P."

SIR: I have twice written to your journal *re* the Australasian College of Surgeons. Both letters have been intentionally or otherwise withheld from publication. I trust you will publish this.

At two well attended meetings of medical men in Brisbane, whilst approving of the establishment of a higher surgical qualification in Australia, strong disapproval was expressed of the methods adopted by the founders of the Australasian College of Surgeons. However, those present were flatly told by one of the apparent founders that what Queensland practitioners said or thought would have no effect whatever. This assertion of arrogance seems to have been justified by time.

It now appears that a system of blackmail is to be instituted. On page 651 of your journal you state: "It is unlikely that anyone possessing the necessary qualifications and attributes will be excluded from this newly formed organization. The names of the Founders will be accepted as a guarantee. That some practitioners who are not members or fellows, may possess ability and skill as surgeons is not denied. If these men seek the hall-mark in vain, there will be some adequate reason."

In view of these statements of yours any and every surgeon will be compelled willy-nilly to apply for membership and if accepted to contribute £5 5s. *per annum* to the funds of the association to avoid being labelled as incompetent or unethical or both.

One question requires to be answered. If a medical practitioner be accepted by this honourable society and after paying his annual levy for a few years, through force of circumstances should not be in a position to continue the annual payments, will his name be removed from the membership list? If so, then he is automatically branded as an outcast. Plainly the position is ridiculous.

Yours, etc.,

"KEPT IN THE DARK."

May 17, 1927.

### RADIOTHERAPY.

SIR: My suggestion that the detailed results of say fifty or one hundred consecutive cases of proved malignant disease treated with radiotherapy would be helpful was made in good faith. However, I gather from Dr. Flecker's letter (May 3, 1927) that the information asked for would not be helpful, so I accept the position.

In conclusion I should like to assure Dr. Flecker that I am not entirely ignorant of the published results of the treatment of malignant disease with radiotherapy, and have seen the results of the treatment in not a few cases both in my hospital and private practice.

Yours, etc.,

ARCHIE ASPINALL.

175, Macquarie Street, Sydney,  
May 30, 1927.

### THE QUININE AND UREA HYDROCHLORIDE TREATMENT OF GOITRE.

SIR: Since an article of mine on the treatment of goitre by quinine and urea hydrochloride appeared in THE MEDICAL JOURNAL OF AUSTRALIA of February 19, 1927, I have received over a dozen letters (two this week) asking how the 4% solution is prepared.

Will you permit me to state that I use the two grain tablets put up by Parke, Davis and Company. These are dissolved in sterile water, but the resulting solution is not sterilized in any way.

As regards further results, since I wrote the article, one exophthalmic case has been apparently cured, one much improved and likely to recover without further treatment. The once large simple goitre mentioned at the end of my article seems to have come to a standstill, three small tumours remaining, one of the apparent size of a walnut, the two others about half as large. They are apparently cysts with thick fibrous walls. This goitre was once about as big as the two fists clenched together.

Yours, etc.,

H. GERALD LOUGHRAN.

Kyneton,  
May 25, 1927.

## Naval and Military.

### APPOINTMENTS.

THE undermentioned appointments, changes *et cetera* have been promulgated in the *Commonwealth of Australia Gazette*, Numbers 40, 45 and 55, of April 28, May 5 and 19, 1927.

#### AUSTRALIAN MILITARY FORCES.

##### First Military District.

##### *Australian Army Medical Corps.*

Major W. J. Fearnley, V.D., is transferred to the Australian Army Medical Corps Reserve, 21st March, 1927.

#### *Australian Army Medical Corps Reserve.*

Honorary Captain W. M. Butler is transferred to the Australian Army Medical Corps Reserve, 3rd Military District, 1st May, 1927.

#### Second Military District.

##### *Australian Army Medical Corps.*

*To be Captain (provisionally).*—Robert Blackie Austin, 4th April, 1927. The provisional appointment of Captain E. M. Sheppard is terminated under the provisions of Section 15 of the Defence Act, 9th March, 1927.

The provisional appointment of Captain A. J. Cunningham is terminated under the provisions of Section 15 of the Defence Act, 11th May, 1927. *To be Captain (provisionally).*—Archibald James Cunningham, 12th May, 1927.

#### *Australian Army Medical Corps Reserve.*

Captain T. de C. Armstrong is placed upon the Retired List with permission to retain his rank and wear the prescribed uniform, 17th April, 1927.

#### Third Military District.

##### *Australian Army Medical Corps.*

The provisional appointment of Captain J. H. Kelly is terminated under the provisions of Section 15 of the Defence Act, 28th February, 1927.

*To be Captain (provisionally).*—John Horace Kelly, 1st March, 1927; the provisional transfer from the Melbourne University Rifles, 4th Division, of Lieutenant I. H. Cowling is terminated, 27th February, 1927, and he is transferred to the Australian Army Medical Corps Reserve and to be Honorary Lieutenant, 28th February, 1927.

#### *Australian Army Medical Corps Reserve.*

Honorary Major J. S. Buchanan is retired under the provisions of Australian Military Regulation 152 (1), 14th April, 1927.

Honorary Captain W. M. Butler is transferred from the Australian Army Medical Corps Reserve, 1st Military District, 1st May, 1927.

#### Fourth Military District.

##### *Australian Army Medical Corps.*

*To be Captain (provisionally).*—Norman Stannus Gunning, 12th April, 1927. *To be Captain (provisionally) Supernumerary to the Establishment Pending Absorption.*—Frank Raymond Hone, 26th April, 1927.

#### Sixth Military District.

##### *Australian Army Medical Corps Reserve.*

Major D. H. E. Lines is placed upon the Retired List with permission to retain his rank and wear the prescribed uniform, 10th April, 1927.

### BIRTHDAY HONOURS.

On the occasion of his birthday His Majesty the King has been pleased to create Dr. Charles P. B. Clubbe a Knight Commander of the Most Excellent Order of the British Empire. Sir Charles Clubbe's conspicuous services to the community in connexion with the Royal Alexandra Hospital for Children, the Bush Nursing Association and his faithful labours for many years at the Royal Prince Alfred Hospital, together with his valuable contributions to medical science, are well known. His friends, his past students and the medical profession at large rejoice that one so deserving of honour has been recognized and offer him sincere congratulations.

It is with much gratification that we learn that Dr. Louis Edward Barnett, Professor of Surgery of the Otago University and President of the second session of the Australian Medical Congress (British Medical Association),

Dunedin, 1927, has had the honour of knighthood conferred on him by His Majesty. His achievements as a teacher at the University, as a surgeon and original investigator and as an organizer are well known to his colleagues in Australia. We offer to him the hearty congratulations of the medical profession of the Commonwealth.

#### NOTICE.

THE Queensland Branch of the British Medical Association will entertain Sir John Goodwin, Governor of Queensland, at dinner on Thursday, June 16, 1927, at Rowe's Banquet Hall, Brisbane. Members desirous of attending are requested to communicate with the Honorary Secretary of the Branch, Dr. E. S. Meyers.

#### Books Received.

DIPHTHERIA, MEASLES, SCARLATINA, by Frank V. G. Scholes, M.D., B.S. (Melbourne), D.P.H. (Cambridge); Second Edition, Completely Rewritten and Enlarged; 1927; Melbourne: William Ramsay. Demy 8vo., pp. 321. Price: 21s. net.

PROCEEDINGS OF THE NINETEENTH AND TWENTIETH CONFERENCES OF THE AMERICAN ASSOCIATION OF MEDICAL MILK COMMISSIONS IN CONJUNCTION WITH THE CERTIFIED MILK PRODUCERS' ASSOCIATION OF AMERICA; 1926. Brooklyn. Demy 8vo., pp. 345.

THE HARVEY LECTURES DELIVERED UNDER THE AUSPICES OF THE HARVEY SOCIETY OF NEW YORK, 1925-1926; Under the Patronage of the New York Academy of Medicine; by various authors; Series XXI; 1927. Baltimore: The Williams and Wilkins Company. Demy 8vo., pp. 229. Price: \$4.00 net.

#### Diary for the Month.

JUNE 14.—Tasmanian Branch, B.M.A.: Branch.  
JUNE 14.—New South Wales Branch, B.M.A.: Ethics Committee.  
JUNE 16.—Western Australian Branch, B.M.A.: Branch.  
JUNE 16.—New South Wales Branch, B.M.A.: Clinical Meeting.  
JUNE 20.—New South Wales Branch, B.M.A.: Organization and Science Committee.  
JUNE 21.—Tasmanian Branch, B.M.A.: Council.  
JUNE 21.—New South Wales Branch, B.M.A.: Executive and Finance Committee.  
JUNE 22.—Victorian Branch, B.M.A.: Council.  
JUNE 24.—Queensland Branch, B.M.A.: Council.  
JUNE 28.—New South Wales Branch, B.M.A.: Medical Politics Committee.  
JUNE 30.—New South Wales Branch, B.M.A.: Branch.  
JUNE 30.—South Australian Branch, B.M.A.: Branch.  
JULY 1.—Queensland Branch, B.M.A.: Branch.

#### Medical Appointments.

Dr. William George Upjohn (B.M.A.) has been appointed Certifying Medical Practitioner and Medical Referee at Melbourne, under the provisions of the *Workers' Compensation Acts*.

Dr. Donald Edward Drever (B.M.A.) has been appointed Honorary Medical Officer at the Port Augusta Hospital, South Australia.

#### Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xx.

AUSTIN HOSPITAL, HEIDELBERG, VICTORIA: Registrar, Assistant Radiologist and Assistant Pathologist.  
BALMAIN AND DISTRICT HOSPITAL, BALMAIN, NEW SOUTH WALES: Honorary Aural Surgeon.  
RENWICK HOSPITAL FOR INFANTS, SUMMER HILL, NEW SOUTH WALES: Medical Superintendent.  
ROYAL ALEXANDRA HOSPITAL FOR CHILDREN, SYDNEY: Medical Vacancies.

#### Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCH.	APPOINTMENTS.
	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester United Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phoenix Mutual Provident Society.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	Members accepting appointments as medical officers of country hospitals in Queensland are advised to submit a copy of their agreement to the Council before signing. Brisbane United Friendly Society Institute. Stannary Hills Hospital.
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	All Contract Practice Appointments in South Australia. Booleroo Centre Medical Club.
SOUTH AUSTRALIAN: Honorary Secretary, 207, North Terrace, Adelaide.	All Contract Practice Appointments in Western Australia.
WESTERN AUSTRALIAN: Honorary Secretary, 65, Saint George's Terrace, Perth.	Friendly Society Lodges, Wellington, New Zealand.
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington.	

Medical practitioners are requested not to apply for appointments to positions at the Hobart General Hospital, Tasmania, without first having communicated with the Editor of THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales.

#### Editorial Notices.

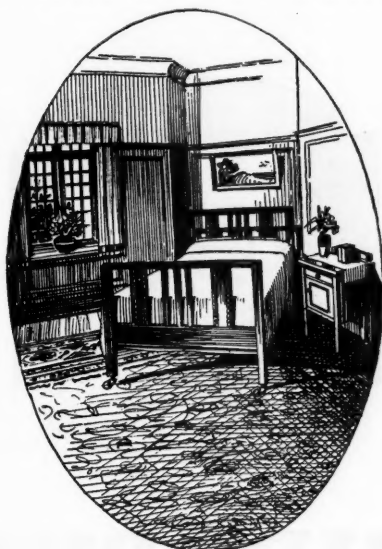
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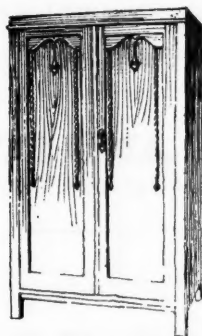
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